NOVEMBER 23, 1959

PAPER TRADE JOURNAL

How Specially Designed Hoods Remove Dust In Converting Ops.

Impressions of Finland's Paper Industry Heard by Me.-N.H. Group

Additives Concern Paperboard Men Meeting In Air of Optimism

Swedish Mill Uses New Idea in Pulp Cutters of German Design

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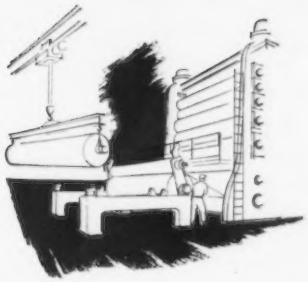
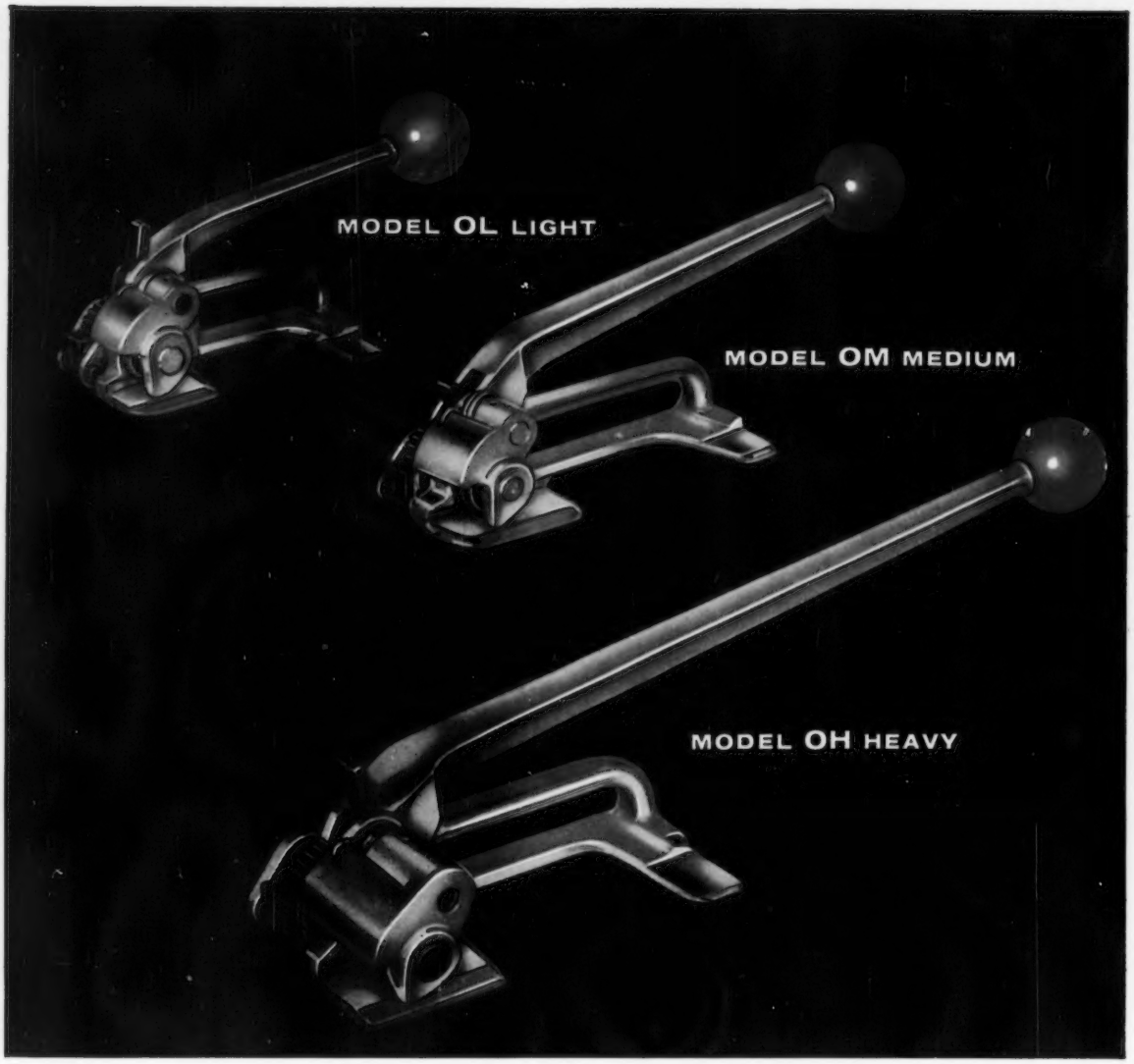
313 N. First St.
Ann Arbor, Mich.



HORIZONTAL TRACK REEL

by PATTON

THE PATTON MANUFACTURING COMPANY, INC. • SPRINGFIELD, OHIO
FAIRFAX 3-5595
1806 W. PLEASANT ST.



New Heavy Duty Steel Strapping Tool completes STANLEY Line of "O" Tighteners

Stanley's **new OH Tightener** is the only heavy duty **friction wheel** steel strapping hand tool **on the market** today for use with cold rolled **¾"** and **1¼"** x .031 and .035 steel strap. **This portable, lightweight, high leverage tightener efficiently packages products and containers of every type, size,** shape and weight . . . increasing packaging flexibility. Seals applied behind the tensioning wheel eliminate strap waste.

Strapplication Data available from Stanley Steel Strapping, Division of The Stanley Works, Dept. K, 1307 Corbin Ave., New Britain, Conn.

INSURE IT—SECURE IT WITH STANLEY STEEL STRAPPING

AMERICA BUILDS BETTER AND LIVES BETTER WITH STANLEY

STANLEY®

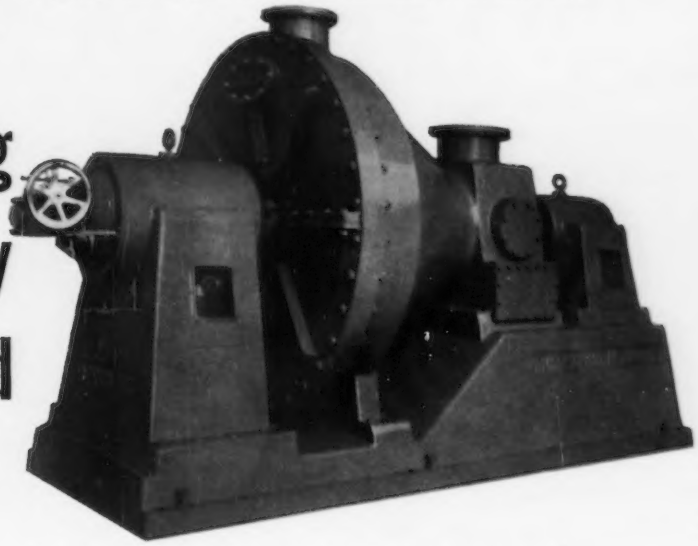
This famous trademark distinguishes over 20,000 quality products of The Stanley Works—hand and electric tools • builders and industrial hardware • drapery hardware • door controls • aluminum windows • stampings • springs • coatings • strip steel • steel strapping—made in 24 plants in the United States, Canada, England and Germany.

The NEW EMERSON CLAFLIN 303 introduces the very latest advances in refiner engineering and design. For example: the first conical refiner with oil mist atmosphere lubrication system, visual oil and pressure gauges and protective warning system; high gear ratio micro-feed plug adjustment; 100 p.s.i. operating pressure; split head design; all control and inspection areas on one side; and many other features. Each contributes to even greater refining efficiency, operating ease and lower cost maintenance.

Emerson Claflins serve the Papermaker for more purposes than any other refiner. This exceptional versatility is proven daily in mill after mill where Emerson Claflins are demonstrating their ability to develop the following wide range of fibers with a minimum of freeness drop.

NEW

refining versatility unmatched



Fine Papers — *both soft and hard wood bleached pulp*
Food and Container Board — *both soft and hard wood bleached pulp*
Liner Board — *unbleached Kraft for both base and top sheet*
Bag, Wrap, Multi-Wall, Twisting and Gumming
Folding and Set-up Boxboards — *both filler and liner*
Corrugating Medium — *semi-chemical pulp and waste Kraft*
Wall Board and Roofing Paper
Hot Stock and High Yield — *following blow tank*
Screen Rejects — *fine and coarse groundwood and chemical pulp tailings*

No matter what furnish you are running, or the specifications you have established for finished paper, it will pay you to investigate the versatility and tested refining efficiency of the Emerson Claflin 303 with its sectional hydrating shell and variety of other fillings. Only Emerson makes the Claflin. Write *The Emerson Manufacturing Co., Division of John W. Bolton & Sons Inc., Lawrence, Massachusetts.*

Emerson
CLAFLIN® 303

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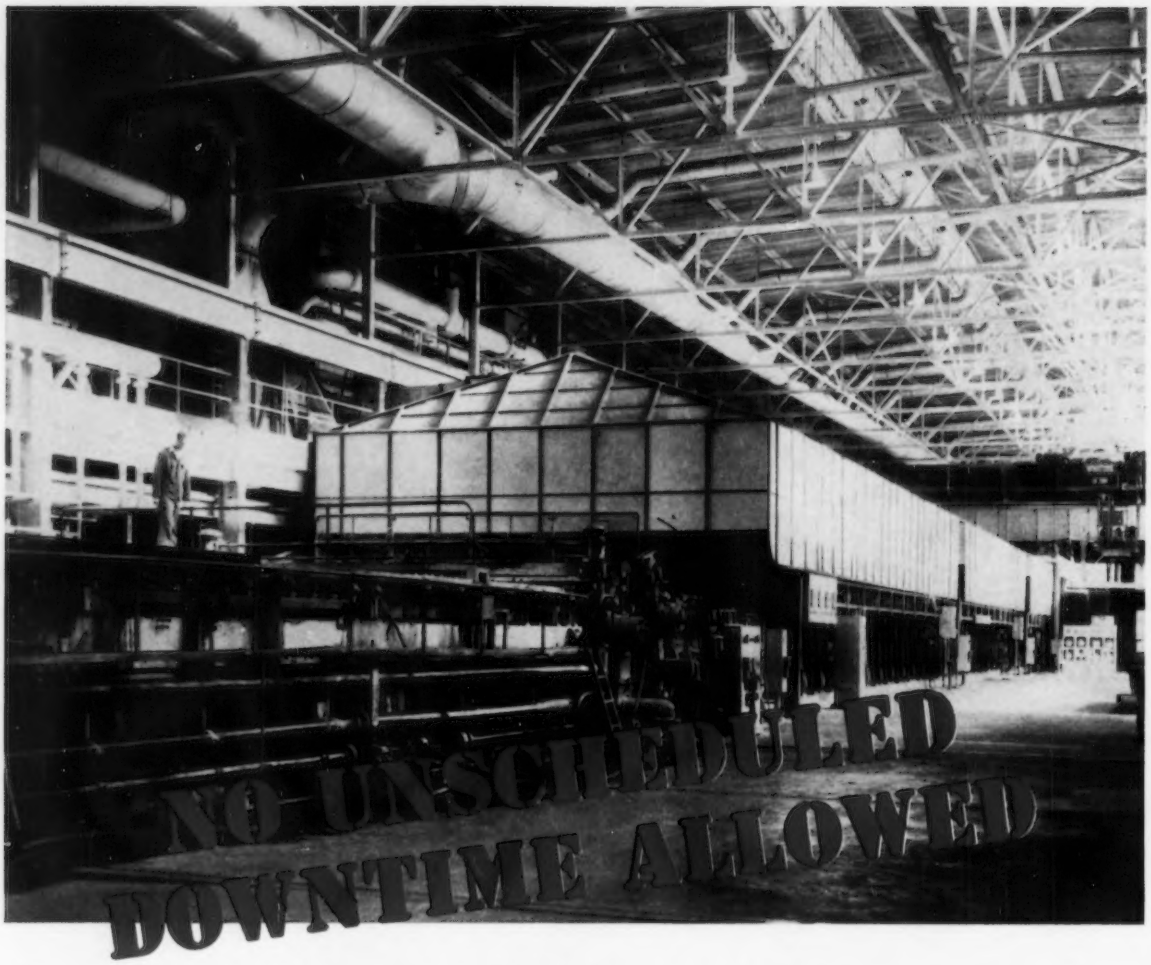

Texaco Paper Machine Oil HD gives full-time protection against the major causes of bearing failure

Water, heat and contaminants do more to shorten bearing life, provoke unexpected production stoppages, than any other factors. With Texaco Paper Machine Oil HD in the circulating system, you get positive, dependable protection against all three of these hazards.

Here's why. Texaco Paper Machine Oil HD is a premium grade lubricant fortified with detergent and dispersive agents, rust preventives and oxidation inhibitors. It provides a tough lubricating film that's proof against extreme pressures and temperatures. The rust protection helps to keep bearings bright-clean, whether the machine's running or idle. The inhibitors keep heat and moisture from building up sludge. And the detergent and dispersive agents keep carbonaceous material entrained in the oil instead of letting it settle out where it can clog oil passages.

For more information about Texaco Paper Machine Oil HD, just call the nearest of the more than 2,300 Texaco Distributing Plants, or write:

Texaco Inc., 135 East 42nd Street, New York 17, N.Y.

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PAPER TRADE JOURNAL

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REMEMBER THESE DATES

December 1-2. National Council for Stream Improvement, Inc., Pulp and Paper Industrial Waste Conference, Edgewater Beach Hotel, Chicago, Ill.

January 26-29. Technical Section, Canadian Pulp and Paper Ass'n., Queen Elizabeth Hotel, Montreal. Note meeting starts Tuesday.

February 22-25. Paper Week in New York.

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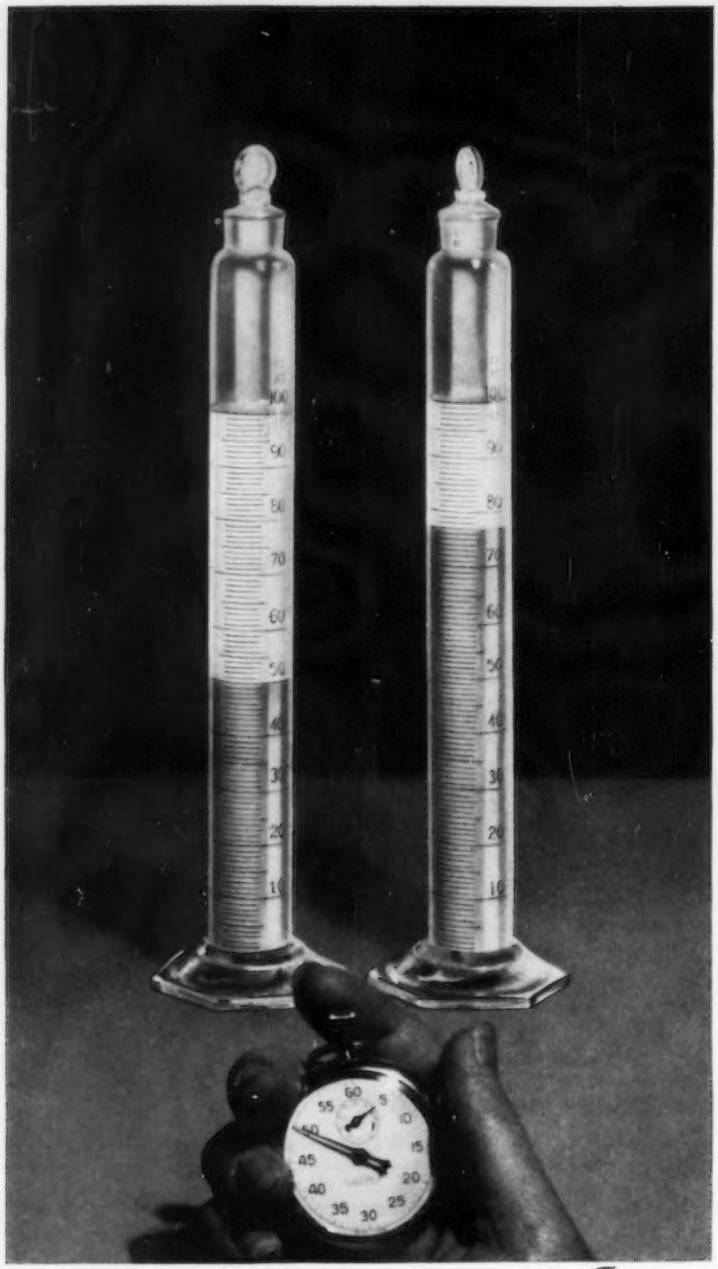

STOP WATCH TEST PROVES Gold Bond's new Fast Settling Lime settles 70% faster than rotary kiln lime hydrate.

Cut your bleaching time with new Fast-Settling Lime!

Gold Bond's new *26F Lime Hydrate (we call it Fast-Settling Lime) settles as much as 70% faster than rotary kiln lime hydrates. It clears the sludge and calcium hydroxide out of your bleach solution up to 70% faster—a big saving on your total bleaching time.

To get the full story about this remarkable new product, see your Gold Bond® Industrial Sales Representative, or write Dept. PT-119

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BUFFALO 13, NEW YORK

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HARSHAW

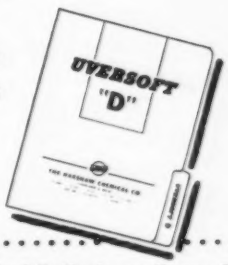
UVERSOFT "D"

imparts soft hand with little reduction in moisture absorbency

• UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.



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HARSHAW

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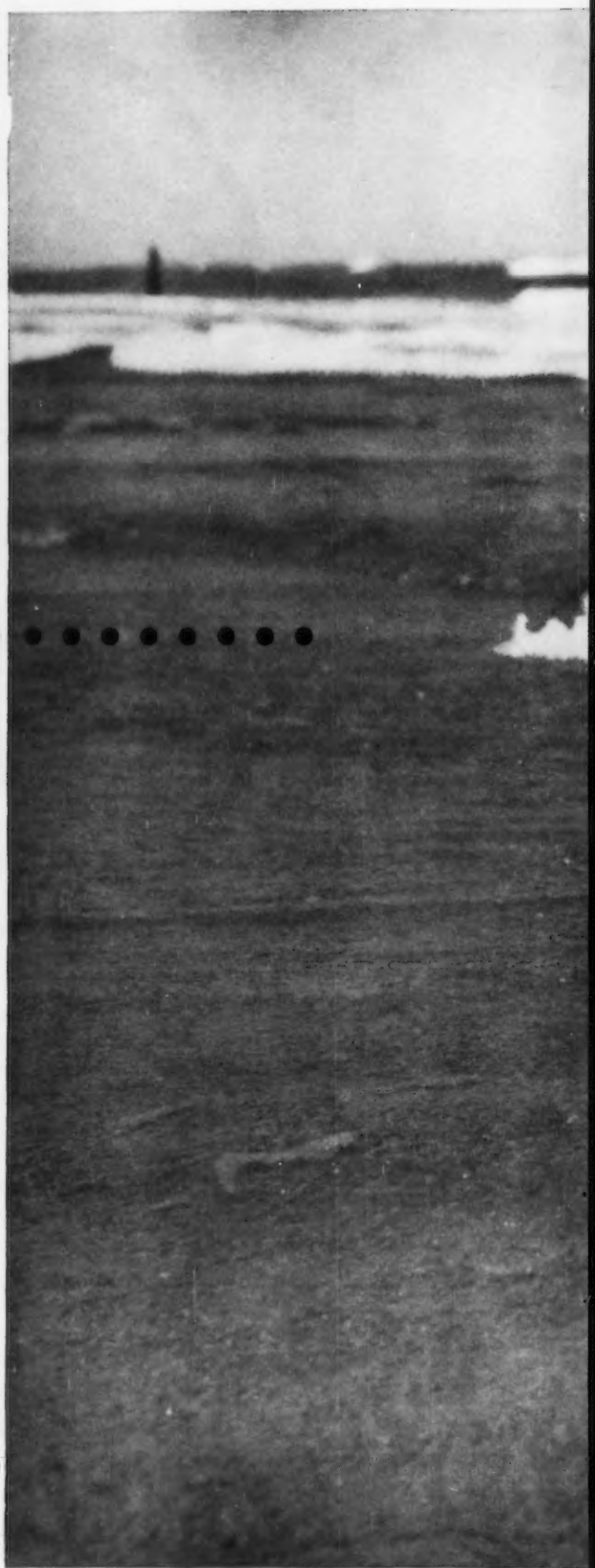

Foam is fun.....

but not for paper coaters

Koppers has just developed DYLEX® K-54 latex for paper coaters—a brand new latex, when agitated, produces a minimum of foam which dissipates at a rapid rate. A critical series of tests between DYLEX K-54 and other competitive latices has proved this conclusively.

And that's not all, DYLEX K-54 offers *improved pick resistance*, whether in combination with starch or casein. What's more, clay coatings made with DYLEX K-54 have a higher degree of smoothness and excellent mechanical stability.

Want the complete story? Then read our new detailed pamphlet on DYLEX K-54—complete with charts and test data. Write Koppers Company, Inc., Plastics Division, Dept. PT-1192, Pittsburgh 19, Pennsylvania.

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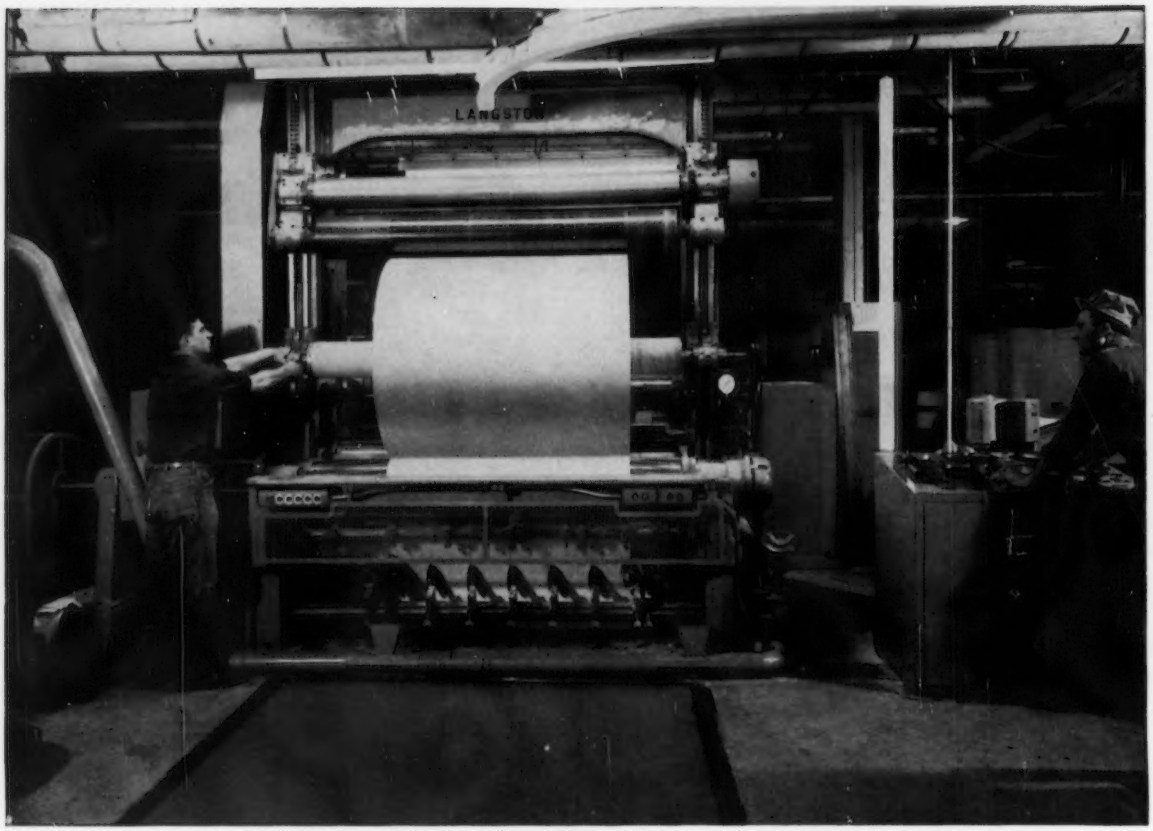


New 72-inch Type CA Langston Slitter and Winder in Marathon Corporation finishing room handles rolls up to 60 in. in diameter at speeds up to 1500 ft. per minute. Finished rolls are lowered by hydraulic drop shown in foreground.

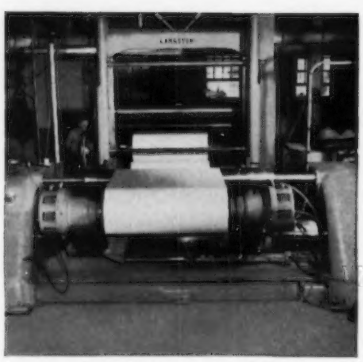
New Langston Slitter and Winder helps Marathon cut operating costs

This new Langston Slitter and Winder installation at Marathon Corporation's Rothschild, Wis., mill is already helping the company cut costs and speed processing of quality paper and board.

For example, the power-operated shaftless unwind stand virtually loads itself. No crew is needed to bull heavy shafts into place. And the Langston hydraulic roll ejector permits 1-man removal of finished rolls. These two features alone are saving Marathon several thousand dollars a year. Water-cooled Wichita-type air brakes can be operated from control console.

Besides effecting major operating economies, these Langston machines also pay off in higher quality rolls. The hydraulic rider roll control, for instance, automatically keeps nip pressure constant, regardless of the diameter or weight of the rewound roll. This insures rolls of uniform density with reduced tendency toward wrinkling or telescoping. The shear-cut slitters cut like scissors instead of a knife, shearing cleanly and keeping paper dust to a minimum. The resulting clean-edged, dustfree rolls are easier for customers to process.

Learn how you can benefit from the advantages of Langston Slitters & Winders. Write SAMUEL M. LANGSTON CO., 6th & Jefferson Sts., Camden 4, N.J.



Langston Shaftless Unwind Stand eliminates the time-consuming, back-breaking task of hoisting heavy shafts into place. The hydraulically actuated arms reach out, pick up the roll and lift it to running position—a 1-man, push-button operation.

LANGSTON *Leadership...by design*

No. 1 Requirement: *Quality*

Here's How a Mill Kept It... And Saved $.95 per Paper Ton!

Cash savings on size requirements multiplied by power savings, cleaner machines, better retention

Fine writing paper production can not take process short-cuts which affect quality . . . so this instance of Nalco Sodium Aluminate performance is more than a cost-cutting story—sheet specifications were considerably improved with Nalco 680 Sodium Aluminate—on top of all the other advantages!

Facts from Figures

This is the way the chemical costs work out on a "per ton" basis:

Size Requirements (without Nalco Sodium Aluminate)...	30.25 lb.
Size Requirements (with Nalco Sodium Aluminate)...	21.60 lb.
Pounds of Size Saved...	8.65
Alum Requirements (without Nalco Sodium Aluminate)...	40.00 lb.
Alum Requirements (with Nalco Sodium Aluminate)...	30.00 lb.
Pounds of Alum Saved...	10.00
Savings on Size (at 15.3 cents per lb.)...	$ 1.32
Savings on Alum (at 2.2 cents per lb.)...	.22
	$ 1.54
Less cost of Nalco Sodium Aluminate (at 10.7 cents per lb.)...	.59
TOTAL NET SAVING, ***per ton of paper***	**$ .95**

Add to the dollar savings above: more fines and furnish kept in the sheet; more rapid reaction time to cut soluble alumina losses in the white water; higher pH to give means of adjusting size-alumina-pH ratio, and to cut corrosion damage; lower power requirements and cleaner machines.

Nalco Sodium Aluminate is a concentrated package of stable, soluble alumina and alkalinity that produces positive advantages all along the line!

Paper Quality Improved

Nalco Sodium Aluminate not only produces spectacular figures in processing savings, but also improved sheet specifications in the mill whose alum-aluminate costs are given above: *Size ratings jumped from a range of 45-50 up to 50-60. Ash content went from 5.6-5.8% to 7-7.1%!*

Other quality improvements include: better aging, folding endurance, burst strength, workability and reduced brittleness.

Action When It Is Needed

Results with Nalco Sodium Aluminate—and every other Nalco chemical used in paper processing—are backed by Nalco Field Service Men whose experience and willingness to help can be of real value to you . . . whether the situation calls for emergency action or long-range planning for better paper products at lowest possible production costs.

For action that leads to results like these in your mill, call your Nalco Field Service Man, or write:

National Aluminate Corporation is now

NALCO CHEMICAL COMPANY

6221 West 66th Place • Chicago 38, Illinois

Subsidiaries in England, Italy, Mexico, Spain, Venezuela and West Germany

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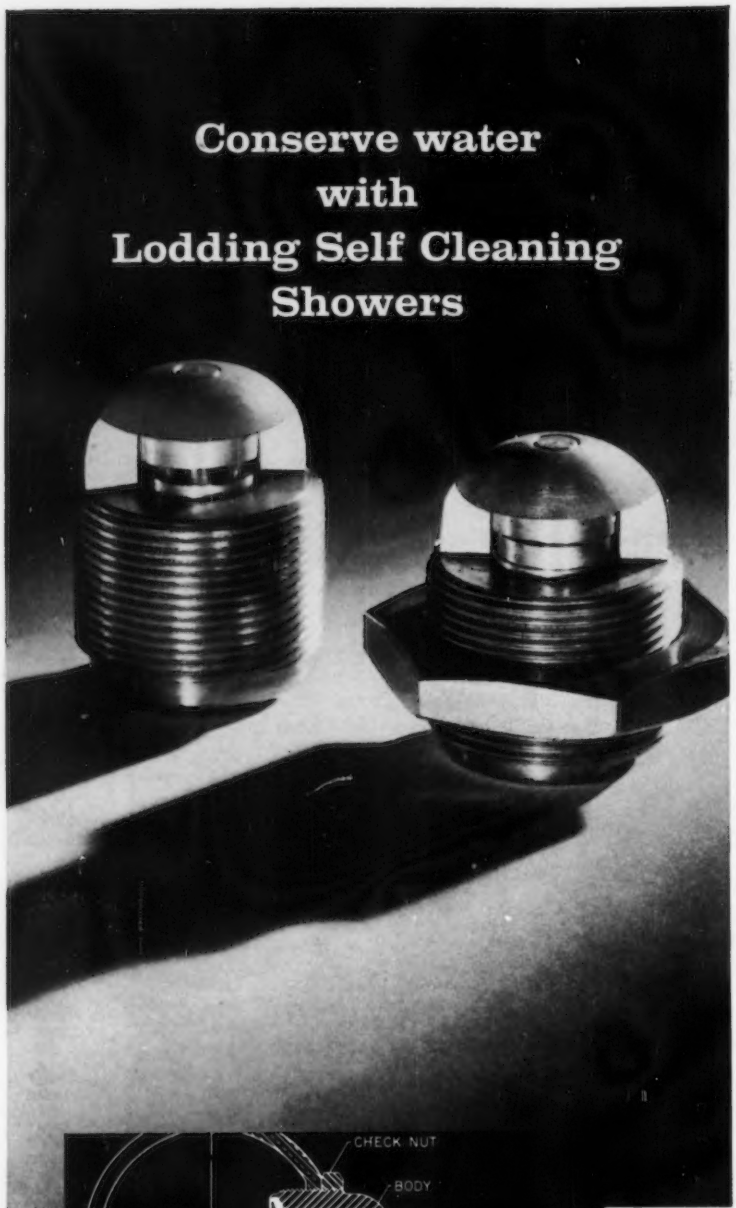
...Serving Industry Through Practical Applied Science

Nalco CHEMICALS

Conserve water with Lodding Self Cleaning Showers



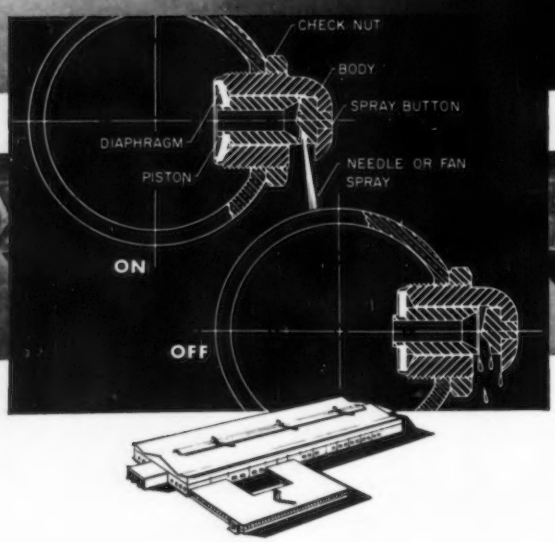
In mill after mill Lodding Showers are conserving water — cutting operating costs — performing effectively.

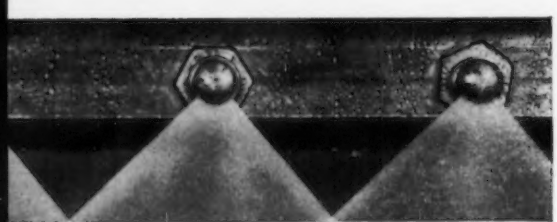
In showers it's the nozzle that counts. And Lodding Nozzles have been engineered to give you the greatest possible showering efficiency, whether your system uses fresh or clarified white water.

Lodding Nozzles are designed with a built-in, sealed piston. In operation, pressure of the water forces the piston against the spray button, which is precision-milled to create the exact spray pattern desired — from an 80° fan to a needle stream.

As particles become lodged in the nozzle, the piston oscillates and automatically frees them. When the water is shut off momentarily the piston retracts. After the water is turned on again there is a brief period before the piston resumes contact with the spray button. During this interval larger particles are flushed from the nozzle.

It will pay you to investigate all the advantages of Lodding Self Cleaning Showers. Lodding, or one of our sales representatives, will be pleased to tell you more about them.





LODDING
Engineering Corporation
AUBURN, MASSACHUSETTS

APPLETON

This is a model of Appleton's new high-speed supercalender. For the first time in the industry, Appleton has combined the advantages of a 4-column supercalender with the roll removal features of an open-face stack. At the same time, this revolutionary Appleton design eliminates many of the difficulties inherent in an open-face stack – couching of rolls, necessity of dismantling auxiliary rolls to change filled rolls. NEW APPLETON HIGH-SPEED SUPERCALENDER FEATURES: In addition to the many advanced features standard on all Appleton stacks, this new high-speed supercalender has: **All parts easily accessible by lifts and elevators . . . Filled rolls removed from back of stack onto full length elevators . . . Unwind with semi-automatic parent roll handling and empty spool transfer to windup . . . Windup with semi-automatic spool handling and wound roll transfer . . . Calender roll housings maintained in vertical alignment by four columns . . . Housings equipped with retractable ball-bearing casters riding in ways . . .** Perhaps this new Appleton supercalender can prove profitable to your operation. We invite you to write for complete technical data.

APPLETON MACHINE COMPANY
APPLETON, WISCONSIN

the **WALWORTH CUSTOMER**

looks for specialized durability in

BRONZE, IRON, STEEL, LPV, PLASTIC *and*

PRESSURE-SEAL VALVES

. . . and here's how he gets it

When the Walworth Customer selects valves for special needs in fluid flow control, he insists on knowing that each type will do its job for a long time, with minimum maintenance. In Walworth Bronze Valves, for example, he finds generous wall thickness, and extra-large stems with extra-deep threads.

In Iron Body Gate Valves, the Walworth Customer checks fully open valves for the free flow of fluids. He finds streamlined ports in the Walworth Cast Steel Gate Valves to fight turbulence and pressure drop.

Tight and fast closures are on his mind when he decides on an LPV, and he finds 100% tight closure in the Walworth Lubricated Plug Valve. It is lubricant-sealed against leakage, opens or closes with a quarter turn, and can be serviced under pressure.

To control corrosive fluids the Walworth customer investigates plastic valves and in Walworth PVC Valves and Fittings he finds his answer. For PVC *cannot* corrode. Problems in extreme pressure and temperature lead the Walworth Customer to Pressure Seal valves. He learns that in the Walworth Pressure Seal Cast Steel Valves all pressure containing castings are radiographed to assure their complete soundness.

In his persistent quest for hard facts about materials, workmanship and high quality in the special valves he buys, the Walworth Customer gets his decisive answers in products bearing the Walworth name. If you, too, insist on verifying solid quality for yourself whenever you buy valves, we want you, too, for a Walworth Customer. For the newest literature on any type of Walworth Valves get in touch with your Walworth Distributor.

Or write **WALWORTH** *750 Third Avenue, New York 17, N. Y.*

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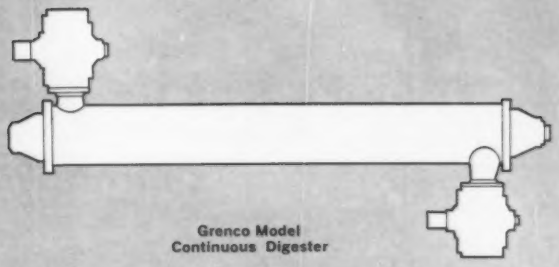
Rapid Cycle
Batch Cooker



Grenco Model
Continuous Digester

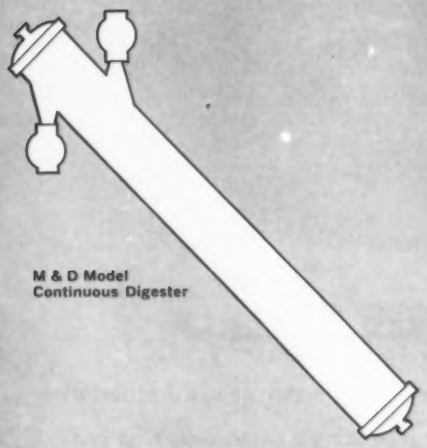
Bauer DIGESTERS

A Complete Line for All Cooking Requirements

Bauer's modern line of digestion equipment is engineered specifically to help you meet modern market demands.

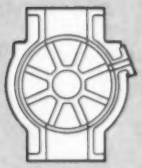
Featuring automatic operation, accurate control and high efficiency, this equipment includes the Rapid Cycle batch cooker and two types of continuous digesters—the Bauer M & D model and the Bauer-Grenco model. Both continuous models are equipped with the famous Bauer-Grenco rotary valve. Optional electronic controls assure maximum uniformity in any type process.

Bauer is the only supplier that can offer you, on an impartial basis, the type digestion equipment best suited to your particular needs. For more details, ask for Bulletin P-30.



M & D Model
Continuous Digester

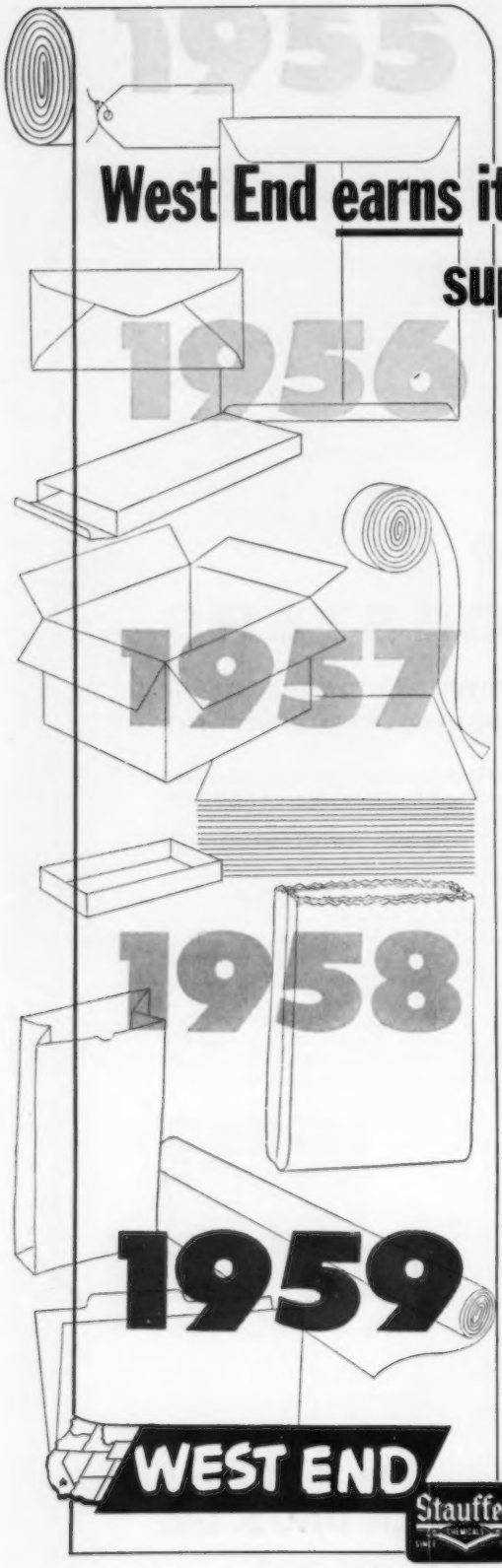
Electronic Controls (Optional)



Grenco Rotary Valve
for Continuous Digesters

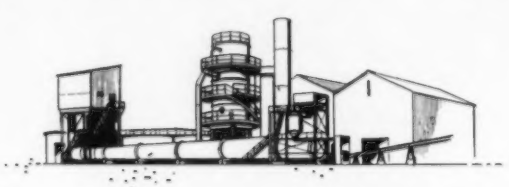
THE BAUER BROS. CO.

1758 SHERIDAN AVENUE
SPRINGFIELD, OHIO



West End earns its position as a responsible supplier of salt cake

In 1955, with its first offering of salt cake, West End assured the Industry of an ability to meet long-term commitments based on vast natural raw material supply, ample production and storage capacity, rapid and efficient transport facilities. By unconditional fulfilment of every commitment for over 4 years, West End has conclusively demonstrated its complete reliability as a major source of highest quality salt cake. Every normal and unanticipated requirement has been met with equal ease and dispatch.



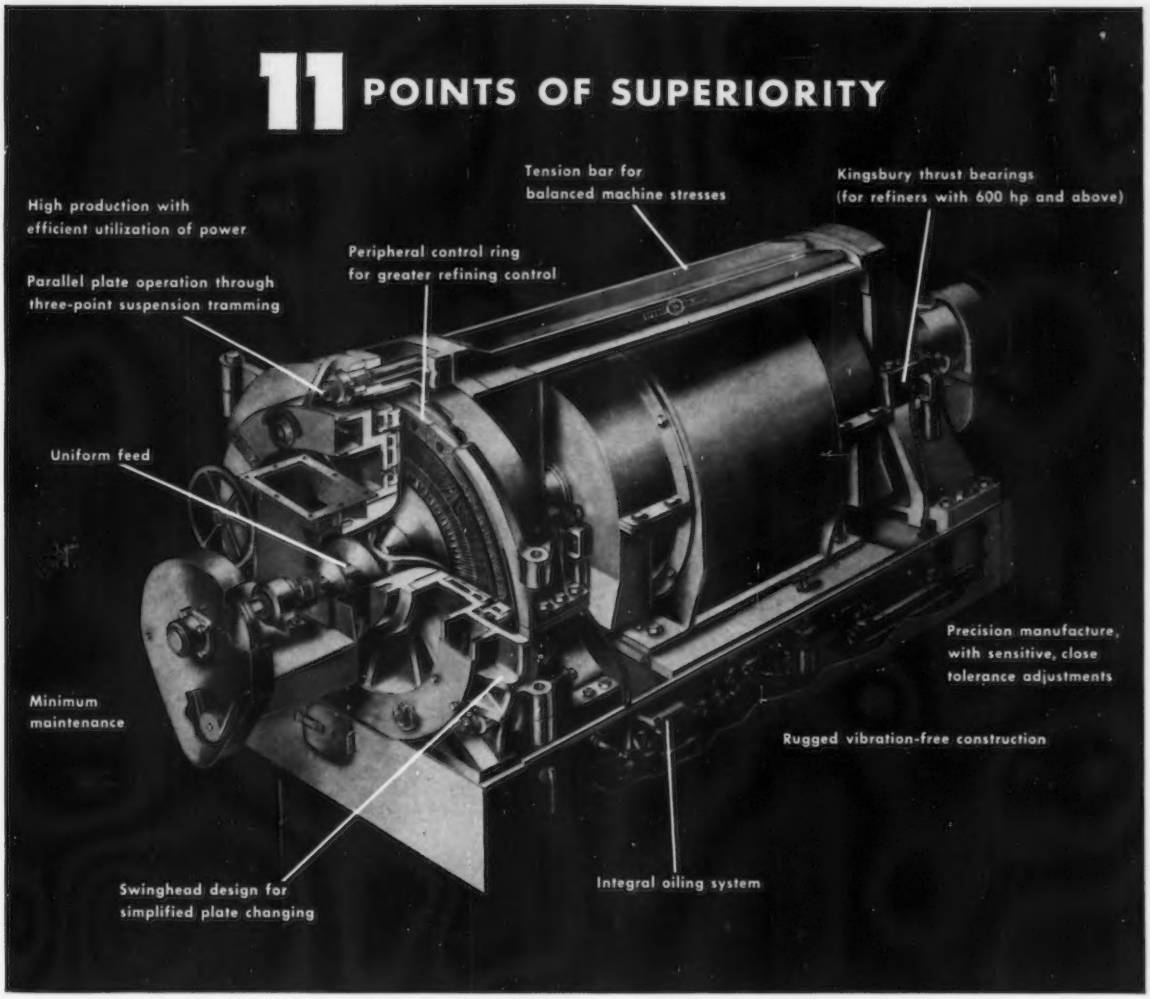
Today, with even larger facilities and a determination to maintain the reputation it has earned, West End is solidly qualified to handle any size requirement in a wide marketing area where it is a logical source of salt cake for kraft paper manufacturers. You are invited to consult with us on the over-all economics of using West End Salt Cake.

WEST END

Stauffer

WEST END CHEMICAL COMPANY
DIVISION OF STAUFFER CHEMICAL COMPANY

EXECUTIVE OFFICES: 1956 WEBSTER, OAKLAND 12, CALIF. • PLANT: WESTEND, CALIF.


11 POINTS OF SUPERIORITY
High production with efficient utilization of power
Parallel plate operation through three-point suspension tramming
Uniform feed
Minimum maintenance
Swinghead design for simplified plate changing
Peripheral control ring for greater refining control
Tension bar for balanced machine stresses
Integral oiling system
Kingsbury thrust bearings (for refiners with 600 hp and above)
Precision manufacture, with sensitive, close tolerance adjustments
Rugged vibration-free construction

THE WORLD-FAMOUS 36-2 "SPROUT"

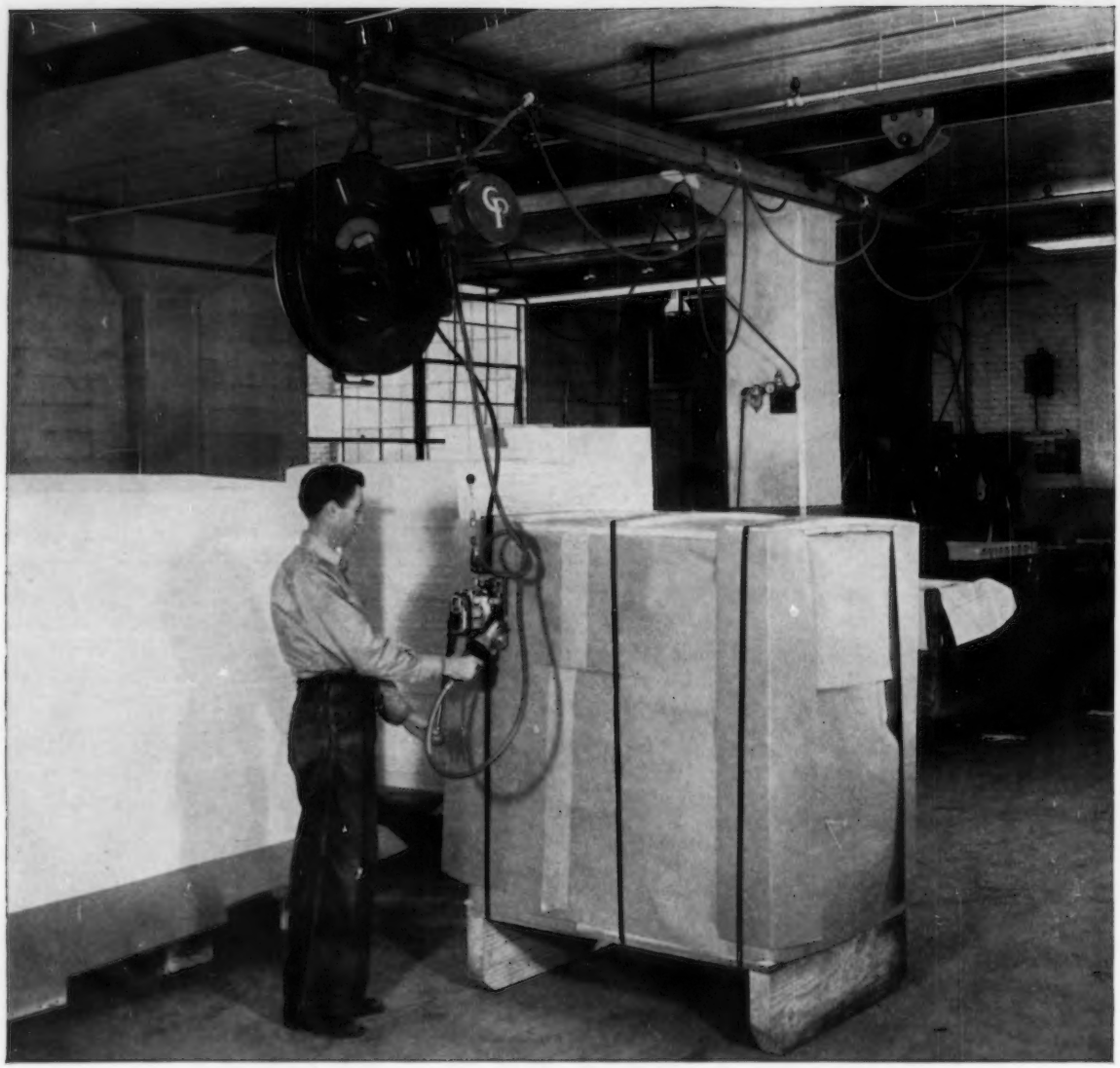
single disc precision pulp refiner

The 36-2 Sprout refiner is the most efficient disc refiner in quantity of output and in quality of refined pulp per horsepower input. It is preferred throughout the industry for every pulping application where rubbing and brushing action, without cutting, is required. Sprout-Waldron units lead the field in the refining of semichemical pulp, cold caustic pulp, screen rejects, wastepaper stock; brown stock and hot stock refining of high yield kraft pulp; refining of bagasse, flax and straw pulping; as well as preparation of insulation and hardboard fiber. For the latest details on the 36-2 Sprout, request Bulletin 96-B.

SPROUT, WALDRON & CO., INC.

MUNCY, PENNSYLVANIA, U.S.A.

E/200 SINCE 1866 REFINERS • DIGESTERS • CONVEYORS • FEEDERS • SCREENS • MIXERS • DRAINERS • FIBER PRESSES • STOCK PROPORTIONERS



Fast Signode way to strap paper skids

Strapping paper skids is fast and easy with a setup like this. The bridge crane gives mobility to the strapping equipment and obstruction-free working space on the floor. Signode's AP-34 air-powered strapping machine applies strap almost effortlessly, in seconds. This Signode design setup makes skid strapping a much more efficient and easy operation. It saves important time and frees valuable floor space. A Signode engineering consultant will be glad to work with you to develop complete strapping stations in your plant, tailored to your needs. Let him help you save time and money now. Write:

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PROMISE HIGH QUALITY BLEACHED PAPER PULP IN 1961

Early in 1961, a new high quality market pulp mill will go on stream near Castlegar, British Columbia, at the foot of the Arrow Lakes region of the Columbia River. Celgar Limited will utilize almost 900,000 acres of prime northern-type forest lands held under a Tree Farm Licence in perpetuity.

All the resources necessary for efficient mill operation are available — wood to meet any future demand, plentiful water from the clear Columbia, power and gas, transportation from the mill site to markets, and trained people from established industrial communities in the area.

Celgar Kraft will combine many of the best qualities of Northern and Western pulps to produce a product with an exceptional balance of properties. The long, tough fibres from high-density softwoods develop high bursting strengths coupled with outstanding tear resistance over a wide range of freeness, and in a variety of stock preparation equipment.

COLUMBIA PULP SALES LIMITED has been formed to distribute Celgar Kraft pulps and Columbia Cellulose sulphite pulps. Offices are located at:
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smoothest distributor rectifier roll coating ever created by man

So smooth that it is even used to cover stainless rolls, GUARDITE flows around corners of holes and covers any roughness from machining. GUARDITE, because of its outstanding corrosion resistance and long lasting surface, permits more mills to have low cost steel shells coated with this new material. Gone are problems of looseness and the covers peeling-off.

On the machine, you will find GUARDITE performs properly, because its smoothness does not tolerate stock pick-up.

For the new GUARDITE Roll catalog page containing complete technical information, contact your S-W sales engineer, or write to:

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Ask the man from S-W . . .

about the extremely smooth and durable surfaces of Distributor Rolls with GUARDITE covers. Find out about their corrosion resistance; heat resistance, and trouble-free characteristics which put paper money in a paper man's pocket.

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and
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1600 Dorchester St. West, Montreal 25, P.Q.

Trends

Stretchable Paper Production Growth Continues

Growing interest in stretchable paper is shown by the announcement in this issue that C-Z has begun production of Clupak paper at Antioch, Calif. Since the first of the year eight paper mills have begun production of stretchable paper by the Clupak process. It is reported that several more paper companies will begin production before the end of the year. In addition, St. Regis Paper Co. and Scott Paper Co. are developing different processes for stretchable paper which are said to be either in full commercial production or close to it.

Over 95% for Six Months

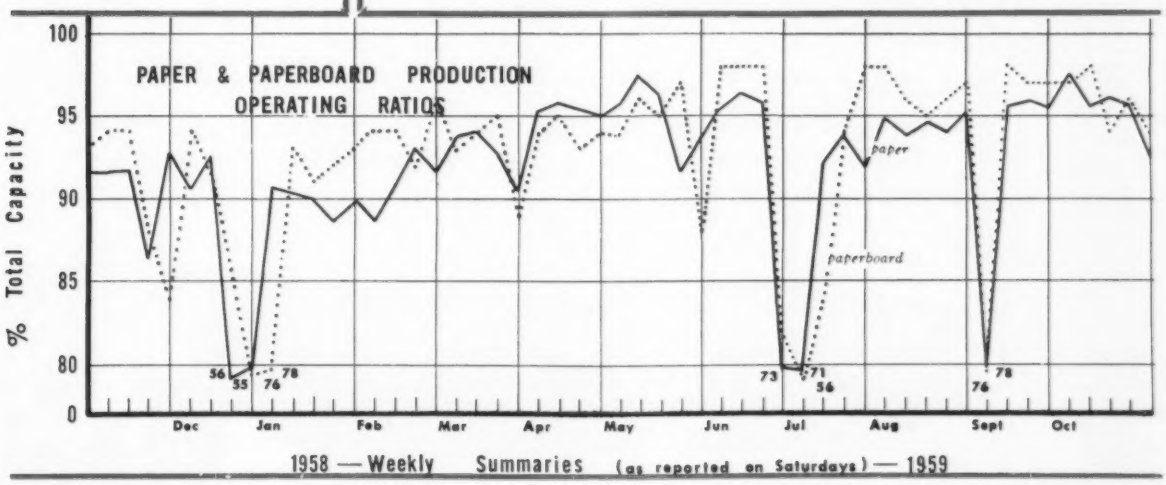
During the past six months both paper and board mills have been running in excess of 95% of capacity, excepting the periods of the compulsory shutdowns on the Fourth of July and Labor Day, for which no allowance is made in calculating the operating rates. In spite of this a recent issue of the New York Journal of Commerce stated of our industry, "Excess Capacity Problem Easing." On the basis of the above, we think it has already eased. To date it seems that our industry has been virtually unaffected by the economy downswing caused by the steel strike. Some of our construction projects have, however, been hampered or delayed.

28M Tons of Board Needed in 1975

An average annual increase of 3.7% in paperboard demand through 1975 was predicted by P. W. Hoguet of the Econometric Institute at the National Paperboard Ass'n. annual meeting in mid-November. He forecast that board demand would be 16.2 million tons next year, 20.1 million tons in 1965 and 28.1 million by 1975. This latter figure is 77% above the estimated 1959 figure. More details are presented in our report of the meeting published in this issue.

Corrugated Boxes Hold Gains in Oct.

Output of corrugated boxes and sheets in the first ten months of 1959 ran in excess of 13% higher than the same period last year in spite of one less working day.



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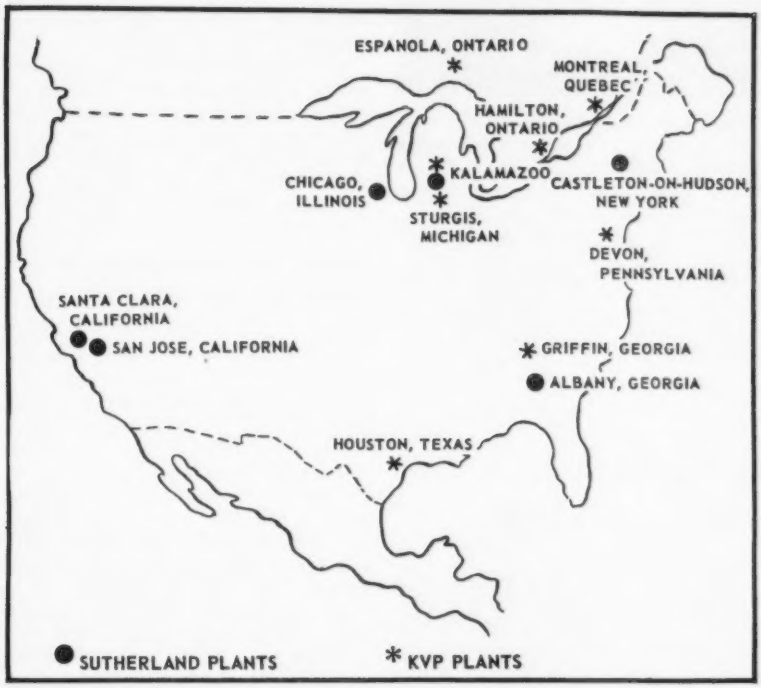
PJT PAPER TRADE JOURNAL

WEEK OF NOVEMBER 23, 1959



Mills and Converting Plants of KVP Sutherland in U.S. and Canada

Scope of operations of the new KVP Sutherland Paper Co. is shown on the map above. As previously reported here, the directors of both KVP and Sutherland have already approved the merger to form the new company. Dwight L. Stocker has already been appointed general manager of Sutherland. Completion of the merger awaits formal approval of shareholders in December.

Sutherland Paper Co. has six plant locations in the United States, with a total employment of 4,245 people as of December 31, 1958. KVP Co. has eight plant locations in the United States and Canada. It employed 3,660 people, as of September 30, 1958.

Sutherland makes paperboard, printed cartons, paper plates and cups, food boards and trays and match books. KVP produces wood pulp, paper, printed over-wraps for product packaging, household and specialty papers, and wrapping and utility papers.

Paperboard Plant Planned For Port St. Joe

A 13½-million-dollar mill for making corrugated paperboard will be built at Port St. Joe, Fla., according to Roger L. Main, president of the St. Joe Paper Co.

Mr. Main said a newly organized firm, Florida Gulf Fibre Co., will build the semi-chemical corrugating medium mill. Construction is scheduled to begin within 60 days and it is expected to go into production early in 1961.

The new mill, which will employ 300, will be located near the St. Joe Paper Co. mill in Port St. Joe. However, the new facility will be an independent operation.

It will utilize hardwoods from the forests of West Florida for the manufacture of corrugated shipping containers.

Construction of the mill is another step in the program of the St. Joe Paper Co. in developing West Florida.

The long-range program can be traced back to the 1920s when the late Alfred I. duPont first acquired woodlands in that section with a view to using the forests as a base for building the area.

The duPont estate controls the St. Joe Paper Co., which owns more than a million acres of woodlands and employs 1,000 in its mill at Port St. Joe and in woodlands maintenance.

St. Regis Plans to Acquire Schmidt & Ault

St. Regis Paper Co. has filed with the Securities and Exchange Commission a registration statement relative to the issuance of St. Regis common stock to be offered in exchange for the outstanding 62,900 shares of common stock of Schmidt & Ault Paper Co. of York, Pa.

The proposed offer would provide that, if the exchange offer is declared effective, a maximum of 267,325 shares of St. Regis common stock would be issued on the basis of four and one-quarter (4¼) shares of St. Regis common stock for each share of common stock of Schmidt & Ault.

Schmidt & Ault operates three machines, two Fourdriniers trimming 80 and 151 inches, and one 6-cylinder trimming 81 inches. Auxiliary equipment includes modern stock preparation and cleaning equipment, and three asphalt dispersion systems.

At present, Schmidt & Ault produces approximately three hundred tons of paper and paperboard daily. The firm has about three hundred employees. Sales in 1958 were $8,444,289.67 and net income was $748,699.58.

DELEGATION TO RUSSIA from Canada stopped en route at Bowater House, headquarters of the Bowater Paper Corp., London. Left to right: Douglas Jones, executive secretary, Technical Section, Canadian Pulp and Paper Ass'n.; Dr. J. L. Keays, Powell River Co., Ltd.; J. McK. Limerick, Bathurst Power & Paper Co., Ltd; G. D. Hughson, Industrial Cellulose Research, Ltd.; F. A. Price, technical editor, Pulp and Paper Magazine of Canada, spokesman and coordinator for the group; E. W. McBride, Abitibi Power & Paper Co., Ltd.; P. A. Harakas, Ontario Paper Co., Ltd.; S. E. Williams, St. Lawrence Corp., Ltd.; H. S. Spencer, Howard Smith Paper Mills, Ltd. Russian visit was sponsored by Pulp and Paper Magazine of Canada with official backing and cooperation of Canadian Pulp and Paper Assn.

Grays Harbor Paper Co. To Add New Paper Machine at Hoquiam Mill

Grays Harbor Paper Co. is adding a second paper machine to its mill at Hoquiam, Wash. The mill now has a 202-inch trim fourdrinier producing sulphite bonds and similar grades of business papers. Total capacity of the two paper machines will be in excess of 70,000 tons per year.

Installation of the new high-speed paper machine and related papermaking facilities costing in excess of $10,000,000 will be completed in late 1961.

The Grays Harbor Paper Co., formerly known as the Grays Harbor Pulp and Paper Co., is jointly owned by Rayonier Inc. and Hammermill Paper Co. Rayonier will hold a major equity position in the jointly held company and will continue to supply its pulp requirements. Hammermill will have a majority of voting stock and will manage and operate the paper company and market its products. Hammermill also owns a substantial interest in Rayonier.

Engineering for the new project will be done on a joint basis with Hammermill supervising paper processing design and equipment specifications and Rayonier supervising plant design and construction.

C-Z Begins Clupak Production at Antioch

Crown Zellerbach Corp. has just begun the first West Coast production of Clupak paper at its Antioch, Calif., mill. Intended primarily for multiwall sack and converting grades, Crown Zellerbach's Clupak paper is being run on its Number 1, 260-inch wide machine at Antioch which has an estimated production capacity of approximately 300 tons a day.

Crown Zellerbach is the eighth paper maker to begin Clupak paper production since the first of the year. International Paper Co., West Virginia Pulp and Paper Co., Union Bag-Camp Paper Corp., Albemarle Paper Co., Continental Can Co., and St. Regis Paper Co. are already in production in this country and St. Lawrence Corp., Ltd., now produces the paper in Canada. Several other well-known firms both here and abroad will begin making Clupak paper before the end of 1959, C. E. Ameran, Clupak president, stated.

Pulp Storage Building Under Way at Nekoosa

Construction is now under way on a pulp storage and shipping building at the Nekoosa mill of Nekoosa-Edwards Paper Co., a leading producer of business and printing papers.

The one-story building will have over 24,000 feet of storage space and will include two tracks and loading docks to facilitate six cars. It will be approximately 190 by 120 feet in size and be of masonry and steel construction.

The new building will be adjacent to the bleach plant and includes an enclosed passageway connecting with the Nekoosa stock preparation room. The building will also provide an enclosed chemical unloading area for the bleach plant.

Scott Subsid. Changes to Ammonia Sulphite Pulping

Falls Paper & Power Co., a wholly owned subsidiary of Scott Paper Co. in Oconto Falls, Wis., is currently undergoing major alterations to allow for a change in its present pulping process. The mill which has used the standard calcium sulphite process for 30 years will now use the ammonia sulphite process. The change in cooking method will enable the mill to use local wood species that were not suitable with the old process.

The modification of existing equipment for the new process will cost $225,000. Yet to be finished is the relining of seven digesters with special double brick lining with an acid resistant membrane between.

Paper and Paper Board Production

The American Paper and Pulp Association reported the ratio of the United States paper production to mill capacity for the week ending November 7, 1959, at 92.4 per cent, compared with 97.7 per cent, revised for the preceding week. The ratio was 92.3 per cent for the corresponding week a year ago.

The National Paperboard Association reported the paperboard production ratio for the week ending November 7, 1959, at 94 per cent, compared with 96 per cent for the preceding week and 93 per cent for the corresponding week a year ago.

(Detailed statistics on page 50)

Montag Becomes Champion Subsidiary

The Champion Paper and Fibre Co. will affiliate with Montag Brothers, Inc., of Atlanta, Ga., through an exchange of common stock.

Under the plan, Montag, a leading manufacturer of school supplies and stationery, will become an independent subsidiary of Champion.

Montag's management, personnel and policies will remain unchanged, according to Harold L. Montag, board chairman, and Ruben B. Robertson Jr., Champion president.

Mr. Robertson said affiliation of the two firms will make possible better co-ordination of the entire process from raw material to finished material in the interest of providing the best possible product for the customers.

Montag was founded in 1889 by Sig Montag and his four brothers, William, Edward, Adolph and Ludwig, with eight regular employes.

The firm now has about 500 employes in a seven-acre plant, said to be one of the largest in the country. Morton L. Weiss is the current president.

A.N.D. Makes New Production Record

A new production record of 896.93 tons of newsprint was made at the Anglo-Newfoundland Development Co., Ltd., mills at Grand Falls, Newfoundland, on Tuesday, November 3, 1959. The machine operating efficiency for that day was 95 per cent.

The previous record of 856.85 tons was made on May 3, 1958.

Dixie Shows Vend Cups at NAMA Show

Three new vending cups with polyethylene lining were shown for the first time by the Dixie Cup Division of American Can Co. at the National Automatic Merchandising Ass'n. convention in Chicago, October 31-November 3.

The new cups, in Dixie's "Mira-Glaze" line, are a six-ounce squat shape, regular; a six-ounce squat shape, deluxe; and a nine-ounce size. All carry a new "Sparkle" design.

With the new items, Dixie Cup has a total of four polyethylene-lined cups available for vending use. The first product, a seven-ounce cup in "Vendaramic" design, was introduced several months ago.

Canadian Paper Output Again Shows Gain

PAPERBOARD

Canadian paperboard production in September was 71,534 tons, up slightly from the year ago figure of 71,281 tons. To the end of September, output was 688,122 tons as against 652,455 tons in 1958.

Shipments were also ahead during the month. Exports were 6,293 tons (5,759 tons last year) while domestic consumption was 66,873 tons (66,577 tons in 1958).

Exports to the end of September were off at 48,998 tons as against 56,914 tons in 1958. But domestic use in the first nine months gained substantially at 626,124 tons as against 588,983 tons a year ago.

WRAPPING PAPER

Canadian wrapping paper output in the third quarter was 78,200 tons and totalled 232,321 tons in the first three quarters. In the same periods last year production was 75,932 tons and 214,380 tons respectively.

Wrapping paper exports in the first nine months were 28,207 tons, up from 21,194 tons a year ago. Domestic consumption for the period was 203,418 tons as against 193,762 tons last year.

WOODPULP

Canadian woodpulp production gained in September and in the first nine months as pulp exports and the level of paper and board output improved.

September production was 881,673 tons, up from 820,945 tons last year. Output to the end of September was 7,833,701 tons as against 7,436,195 tons in 1958.

Exports for the month were 203,644 tons as compared with 197,136 tons a year ago. In the first nine months, shipments abroad totalled 1,805,025 tons, a substantial gain from the 1,614,592 tons exported in the same period last year.

Domestic pulp consumption to the end of September was 6,018,328 tons as compared with 5,775,418 tons in the same period in 1958.

FINE PAPER

Canadian fine paper production gained substantially in September and the first nine months. Output for the month was 22,123 tons, up 10.3 per cent from the year ago figure of 20,051 tons. To the end of September production gained 9.5 per cent at 208,508 tons as against 190,429 tons last year.

Fine paper shipments were also ahead. Shipments during September were 21,879 tons as compared with 20,422 tons in 1958. Shipments in the first nine months totalled 203,404 tons including exports of 12,763 tons. In the same period last year shipments totalled 189,711 tons of which 11,738 tons were shipped abroad.

Coated paper shipments in September were 3,193 tons up from 2,690 tons a year ago. In the first nine months coated paper shipments were 25,254 tons as against 22,824 tons in 1958.

"Hobson's really excited about this new rag content development."

PAPER PEOPLE

R. K. Stolz

J. L. Wilson

Packaging Corp. of America Names VP's

Robert K. Stolz has been appointed to the new position of vice president-forward planning, and John L. Wilson has been named vice president of research and development, of Packaging Corp. of America.

Both men are management veterans of American Box Board Co., of Grand Rapids, Mich., one of the three major divisions of Packaging Corp. The new company was formed recently by the three-way merger of American Box Board, Central Fibre Products Co., Quincy, Ill., and Ohio Boxboard Co., Rittman, Ohio.

Mr. Stolz, who also is a director of Packaging Corp., has held the posts of vice president of finance, and of treasurer at American Box Board where his career began in 1934 as credit manager. He also is a trustee and secretary of the American Box Board Foundation.

Mr. Wilson formerly was vice president of marketing of the American Box Board Co., and also has held key positions in both sales and plant management. His career with the company dates back to 1932. Mr. Wilson saw five years of military service in World War II, including two years in the South Pacific as a Company Commander and Regimental Adjutant with the 31st Infantry Division.

Scott Promotes LaMarre and Paduan

Two promotions at Scott Paper Co.'s Winslow plant have been announced by G. F. Blessing, Northeast division manager.

Albert L. LaMarre has been promoted to the position of assistant electrical foreman. James N. Paduan has been promoted to assistant logwood and woodroom superintendent.

Mr. LaMarre has been employed at Scott since 1948. He was promoted to a crew leader position in 1956.

Since January 1956, Mr. Paduan has been assigned as assistant industrial engineer at the local plant. He was first employed by Scott at its Marinette, Wis., plant as an engineering trainee and later became a planning engineer at that plant.

Brown Co. Appoints Director of Advertising

Brown Co. has appointed Joseph A. Reddy director of advertising. In the newly created post Mr. Reddy will direct advertising and promotion efforts for Brown Co.'s varied products produced at the firm's mills.

Mr. Reddy, a native of Gloucester, was graduated from Syracuse University of Journalism. For the past three years he has been on the advertising staff of Holiday magazine. Prior to that, he was manager, for six years, of the travel development and transportation departments of the New England Council, assistant advertising manager of Masonite Corporation, and advertising manager of Butler Brothers, Chicago, Illinois.

Allied Names Paulson Chief Maintenance Engr.

Allied Paper Corp. has appointed Edward Paulson chief maintenance engineer.

H. B. Johnston, vice president, said that Mr. Paulson will work directly under him and will be responsible for the overall general supervision of the maintenance functions of the King, Monarch and Bryant Mill divisions.

Mr. Paulson, a mechanical engineer, was formerly with the Crandon Paper Mills of Fort Madison, Ia.

Butler Joins Riegel Sales Division

William E. Butler has joined the Packaging Materials Sales Division of Riegel Paper Corp. Mr. Butler has been general purchasing agent for E. S. & A. Robinson, Ltd., in Toronto since 1951. Prior to that he was associated with Robinson subsidiary, Thomas M. Royal Co. in Philadelphia.

Scott Names First Customer Relations Dir.

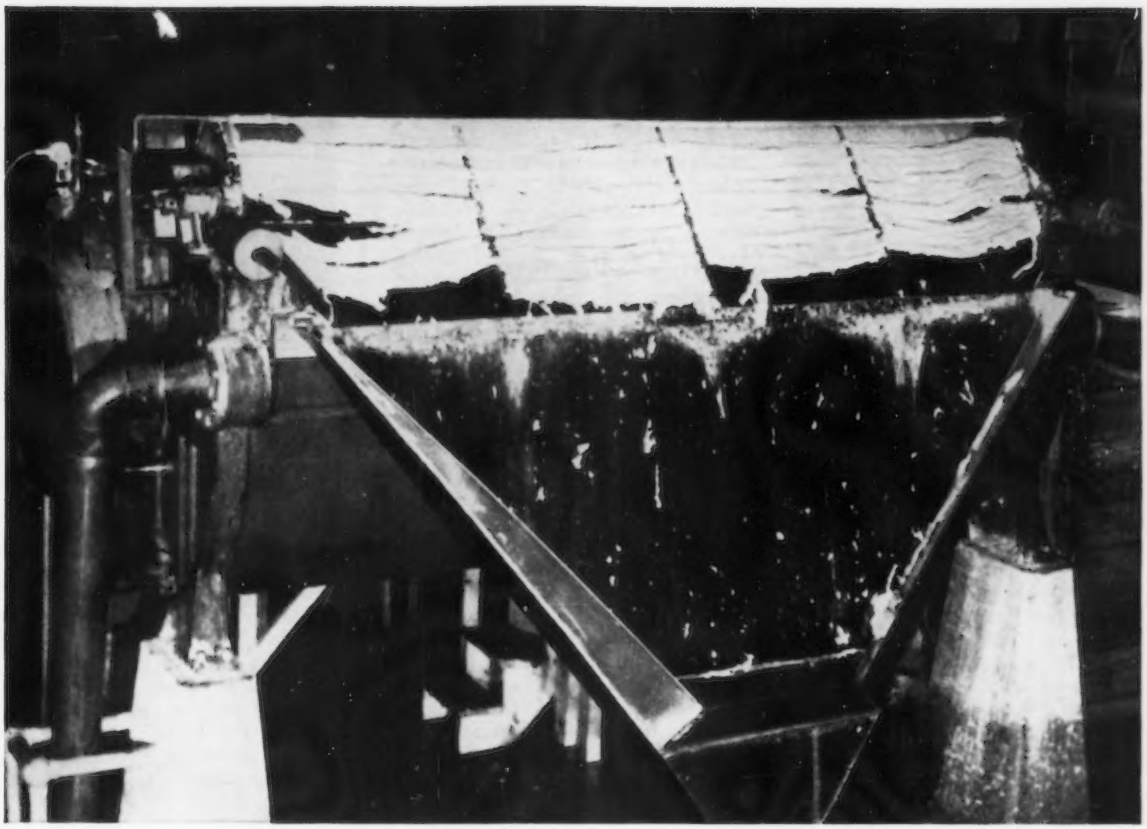
Francis W. Plowman, vice president and director of Scott Paper Co., has been named the company's first director of customer relations.

In his new post, Mr. Plowman will

Francis W. Plowman

assist all branches of Scott's sales organization in developing programs and policies best suited to the needs of the company and its customers.

Mr. Plowman brings to his new post 30 years of Scott experience, nearly half of it in the marketing field. Serving first in the controller's division, Mr. Plowman joined distribution in 1940. He subsequently was named vice president in charge of distribution and was elected to the board of directors. Since 1956 he has been in charge of the company's cup division in Philadelphia, Pa.



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Into Profit

Why waste high priced stock that has already gone through all that expensive processing?

Bird Save-Alls wipe out this waste by recovering the stock at the peak of its value, and at lowest cost per ton.

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BIRD MACHINE'S 50th YEAR OF SERVICE TO INDUSTRY

H. S. Rothe

Rothe Becomes Youngest Natl. Gypsum Plant Mgr.

Howard S. Rothe has been named manager of National Gypsum Co.'s Newburgh, N. Y., paper mill. With the appointment, the 29-year-old Mr. Rothe, who has been acting manager at Newburgh since July 1, becomes National's youngest plant manager.

Mr. Rothe, a native of Chicago, is a graduate of Syracuse University. He also attended Broome Technical Institute in Binghamton, N. Y. He joined National in 1952. After two year's service in Korea, he rejoined the company as a management trainee in the Pryor, Okla., paper mill.

He later served as tour foreman at Pryor, and as tour foreman and project engineer at the company's paper producing facility in Anniston, Ala.

Westvaco Promotes Sutphen At Luke Mill

Promotion of Harold A. Sutphen to the position of assistant manager in charge of administration for the Fine Papers Division of the Luke, Md., mill of West Virginia Pulp and Paper Co. has been announced.

Mr. Sutphen joined the Luke mill staff in March 1956 as a commercial analyst and has been commercial superintendent since October of that year. He is a graduate of Princeton University with a bachelor of science degree in mechanical engineering.

In his new position as assistant manager, administration, Mr. Sutphen will be responsible for purchasing, traffic, order and scheduling, accounting, insurance, taxes and all of the commercial and office management functions.

Winthrop Endicott

Riegel Names Endicott Sales Mgr., Carolina Div.

Winthrop Endicott has been promoted to the newly created position of sales manager of the Carolina Division, Riegel Paper Corp., according to an announcement by Charles E. Hartford, vice president and general manager of the division. In this capacity Mr. Endicott will be responsible for sales of pulp as well as paperboard from the Carolina mill.

Rodger C. Derby has been promoted to assistant manager, paperboard sales. Richard L. Hoff continues

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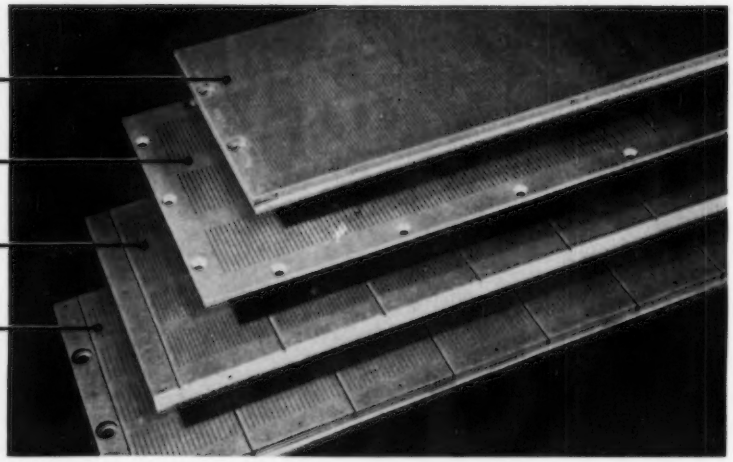
for **Maximum Flow of Cleaner Pulp** on any type of job!

5/32" MULTI-SERVICE PLATE – T-bar Style, solid, one-piece top, stronger than bronze, with wide relief milling for high capacity, and the corrosion resistance of 100% stainless steel construction.

1/4" SOLID PLATE – The heavy, one-piece, stainless steel plate with built-in higher strength and longer life.

5/8" BEVELED CHANNEL PLATE – Thin-sheet, fabricated design eliminates relief milling and permits increased screening capacity.

5/8" T-BAR CHANNEL PLATE – High-strength, thin-sheet fabricated design, similar to the above except with T-bar channel frame.



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VALVES: GATE · SWING CHECK · BLOW · GLOBE · ANGLE AND "Y"

as assistant manager, pulp sales. Both Mr. Derby and Mr. Hoff will report to Mr. Endicott.

National Container Makes Executive Changes

Carl J. Dunivin, Los Angeles, vice president of National Container Corp. of California, has been named both general manager of the company's Los Angeles plant and assistant to the president in charge of Southern California operations. He will continue as sales manager of the Los Angeles plant.

William J. Prudler, of Oakland, Cal., vice president of National Container of California as well as general manager of its Oakland plant, also has been given the additional title of assistant to the president in charge of northern California operations.

"The additional assignments for Messrs. Dunivin and Prudler are being made as a result of the increased production facilities in our Los Angeles plant, plus the need to devote more time and effort to our Northern California operations," George J. Schneider, president and general manager said.

Spruce Falls Announces Engineering Div. Changes

Extensive changes in the engineering division, Spruce Falls Power and Paper Co., Kapuskasing, Ont., Canada, have recently been announced. Doug Millikin, former maintenance engineer, has been appointed staff engineering superintendent with Kimberly-Clark Canada, Ltd., at Niagara Falls, Ont. His new duties make him responsible for engineering, industrial engineering and technical services to the Niagara Falls, the Winnipeg, the St. Hyacinthe and the Lancaster, New Brunswick, mills. Mr. Milliken is a graduate in mechanical engineering from Queen's University. He came from school to Spruce Falls as a junior engineer in design and development. In 1950 he became boiler house design engineer, and in August 1952, utilities engineer for the steam department. In January 1956 he was promoted to project engineer in design and development, assuming duties as maintenance engineer June 15, 1957. He left Spruce Falls for his new assignment October 16 of this year.

Replacing Mr. Millikin as maintenance engineer is Russ Tully, former construction engineer. A mechanical engineering graduate of McGill University, he joined Spruce Falls as a junior engineer in the design and development department. He was appointed construction engineer in May 1958.

John Shipman, former paper mill maintenance engineer will take over Mr. Tully's duties as construction engineer. Mr. Shipman, a graduate in civil engineering from Queen's University, has spent nine months in Smoky Falls, six months in Neenah and two months in Coosa River. He became paper mill maintenance engineer in 1954.

Bert Moore becomes paper mill maintenance engineer. He is a graduate of the University of Toronto in civil engineering and like those already mentioned, started in design and development as a junior engineer. In 1952 he became W. H. & P. maintenance engineer and in 1956 he assumed duties as lubrication and plant maintenance engineer.

Undertaking Mr. Moore's former duties is George Flett. Until now, Mr. Flett, who graduated in mechanical engineering from Queen's University, has been a junior engineer in design and development. He has just returned from 16 month's temporary assignment at Neenah.

If it takes 7.05 milligrams of Bond Blue B to match a blue on laboratory sheets weighing 3 grams, how many pounds of dye per ton would you call for, to produce the same shade in the mill?

Warning: A simple transposal to equivalent pounds of dyestuff per ton of stock will give the wrong answer.

For a technical article discussing the problem of adjusting a laboratory dye formula to meet requirements of the individual mill, drop us a line. It is the latest Sandoz publication, designed to increase the industry's understanding of color and its application to pulp and paper.

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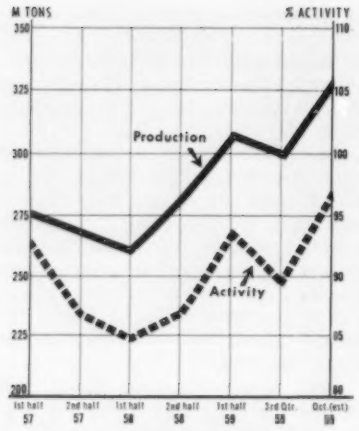
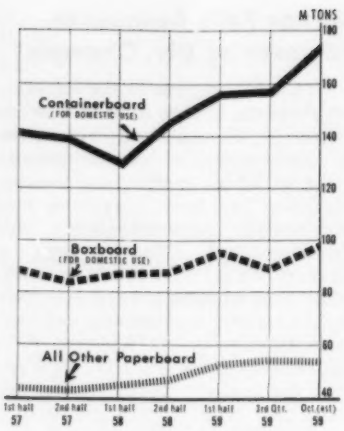
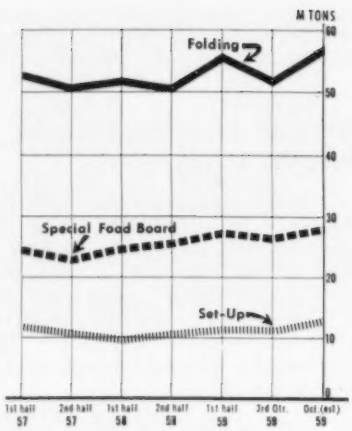


TOTAL PAPERBOARD
PRODUCTION AND ACTIVITY



PAPERBOARD PRODUCTION
BY GRADES



BOXBOARD PRODUCTION
(FOR DOMESTIC USE) BY GRADES

Paperboard Mfrs. Meet in Mixed Atmosphere of Confidence and Concern

Production and sales of paperboard caused no concern at the meeting of the National Paperboard Ass'n. held in mid-November at the Waldorf-Astoria Hotel, New York City. Reports presented on output and demand showed that in 1959 new records have been set continually.

There were two subjects of concern. First the fact that profits have failed to keep pace with rising production and secondly the problems of clearing additives used on paper and board manufacture to comply with the so-called food additive regulations of the United States Dept. of Agriculture. Ross C. Wilcox (vice president, Marathon Div., American Can Co.) chairman of the NPA-APPA "Food Additive" Liaison committee indicated that substantial progress is being made in the clearing of these chemicals.

J. R. Kennedy
NPA President

Executives Re-elected

J. R. Kennedy, president of Federal Paperboard Co., Bogota, N. J. was re-elected president of the Association. Mr. Kennedy, a graduate of New York University, became associated with Federal as assistant to the president after a varied career on Wall Street and with the copper industry. He became president of Federal in 1942.

Sture G. Olsson, president, The Chesapeake Corp. of Virginia, West Point, Va., was re-elected vice president. A native of West Point, Va., Mr. Olsson graduated in 1942 from the University of Virginia. Following service with the U.S. Navy during World War II, he entered The Chesapeake Corp. as plant engineer in 1946. In 1951 he was named vice president in charge of manufacturing, from which position he advanced to executive vice president in 1952 and was elected president and general manager in October, 1952.

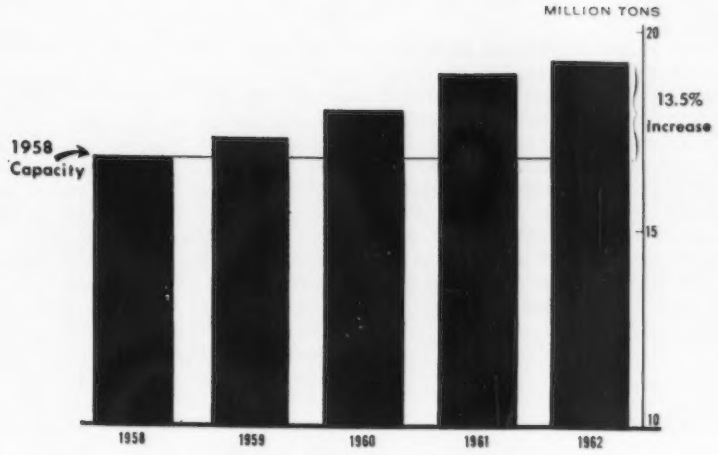
H. L. Wollenberg, president, Longview Fibre Co., Longview, Wash. was also re-elected a vice president.

The following paperboard mill executives were elected as new members of the board of directors:

J. S. Benton, Champion Paper & Fibre Co., Hamilton, Ohio; T. F. Cass, Container Corp., San Francisco, Cal.; Dan Int-Hout, Jr., Michigan Carton Co., Battle Creek, Mich.; C. H. R. Johnson, Consolidated Paper Co., Monroe, Mich.; G. F. Kress, Green Bay Paper & Pulp Co., Green Bay, Wis.; M. B. Lowe, Sr., Lowe Paper Co., Ridgefield, N. J.; O. C. Majors, Fibreboard Paper Products Corp., San Francisco, Cal.; C. B. Stauffacher, Continental Can Co., New York, N. Y.; L. H. Stokes, Sonoco Products Co., Hartsville, S.C. and W. W. Walters, Diamond National Corp., New York, N. Y.

S. G. Olsson
NPA Vice President

Production of containerboard, used 7.5 per cent higher than the same for 1962, two for boxboard and one



TOTAL PAPERBOARD CAPACITY

Big Paperboard Gains Forecast to 1975

Total paperboard demand will climb in 1960 to 16.2 million tons, two per cent above 1959's high level, predicted P. W. Hoguet, president of the Econometric Institute.

Mr. Hoguet estimated that by 1965 paperboard demand in the United States would reach 20.1 million tons, 26 per cent above estimated production this year, and by 1975 paperboard demand will total 28.1 million tons annually, 77 per cent above current levels.

Mr. Hoguet estimated his forecast on expected gains in consumer income and an annual rate of increase of three per cent for the total index of industrial production. He said that paperboard will have a higher rate of growth averaging 3.7 per cent per annum.

The major paperboard end use markets, which include food and textiles, are growing slower than the economy, but Mr. Hoguet stated that of the 3.7 per cent average annual increase expected for paperboard, 2.4 per cent will represent growth in end use activity and 1.3 per cent yearly gains in competitive position.

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Mr. Hoguet said that in the largest category of paperboard, namely containerboard, in the second and third quarters of 1959, production included some inventory building.

Containerboard demand is forecast to increase only an additional 3 per cent in 1960 to 8.34 million tons, compared with an estimated 8.11 million tons in 1959, a 12 per cent increase over 1958's 7.24 million tons.

Folding boxboard is expected to reach a 2.98 million tons level in 1960, one per cent above this year's 2.96 million tons, which was 10 per cent above the 2.61 million tons in 1958.

Demand for set-up boxboard is expected to decline one per cent in 1960 to a 611,000 tons level compared with 619,000 tons for 1959. Set-up boxboard is continuing to lose position in its end-use markets.

Mr. Hoguet said the institute expects a decline in consumption for textiles and apparel, one of the important markets for set-up board.

Demand for special foodboard is forecast to rise to 1.5 million tons in 1960, 4 per cent above 1.44 million in 1959, which will be 8 per cent above 1958 production of 1.3 million tons.

Containerboard demand is forecast to increase an average of 4.2 per cent a year between 1960 and 1975.

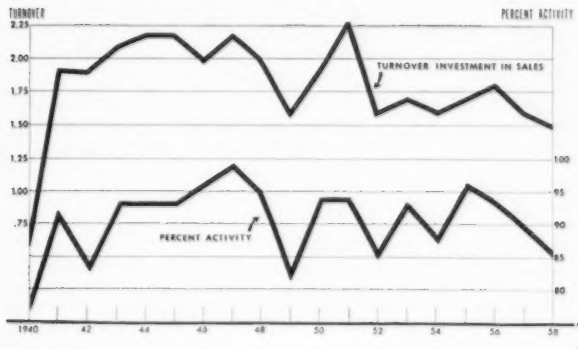
Folding boxboard demand is expected to increase an average of 2.9 per cent a year.

Paperboard Production at All Time High

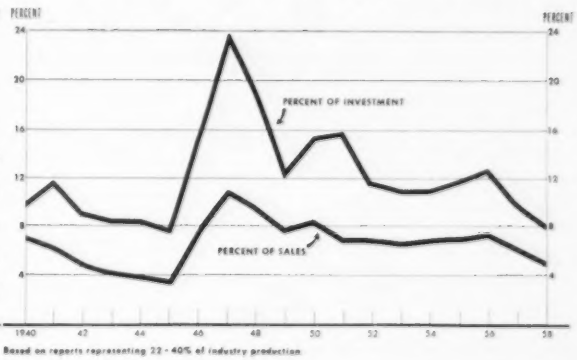
"Paperboard demand and production have been at record levels during the first ten months of 1959," Warren F. Wescott, assisant statistician, National Paperboard Ass'n. told paperboard officials.

Mr. Wescott reported that total paperboard production during the first ten months of 1959 reached 13,350,000 tons. This ten-month production is higher than the annual production in five years of the past decade—1950—1954, he declared. In eight of the ten months of 1959 average weekly production of paperboard has exceeded 300,000 tons.

INVESTMENT TURNOVER AND PER CENT ACTIVITY



PROFIT AS PER CENT OF INVESTMENT & SALES



Based on reports representing 32 - 40% of industry production

Production of containerboard, used in the manufacture of corrugated shipping containers, has also set new levels with a record production of 180,200 tons being produced during the week ending October 17. To date containerboard production has averaged 159.1 thousand tons per week, 15.4 per cent higher than a year ago. On the boxboard side, which is used to manufacture folding cartons, set-up boxes and paperboard food containers, total production this year to date has reached 4,577,600 tons and has averaged 94,650 tons per week, 7.5 per cent higher than the same period of 1958.

Demand for paperboard continues to remain good. During the month of October unfilled orders averaged over 520,000 tons per week as compared with an average of less than 450,000 tons per week in October, 1958.

Mr. Westcott concluded by stating that all indications point to 1959 being a record production year with possible total production running 16 million tons which would be 1.6 million tons higher than the previous record year of 1956.

Financial Data and Capacity

A. A. Newberg, statistician, National Paperboard Ass'n., presented a report entitled "Financial Data and Capacity in the Paperboard Industry." Mr. Newberg presented data from the preliminary report of the joint APPA and NPA Survey of paper and paperboard capacity. This data is summarized in the accompanying table. He pointed out that in 1960 there will be seven new machines coming into operation on paperboard. Three of these will be on containerboard and four will be on boxboard. The report indicates that in 1961 there will be seven new machines in operation, all on containerboard. To date there are three slated for 1962, two for boxboard and one for "all other" grades. An 18 per cent increase in kraft containerboard capacity is indicated for the four year period 1959-62. For special food board the increase is 31 per cent.

Mr. Newberg pointed out that to meet the 28 million ton demand forecast by Mr. Hoguet and to run at operating ratios in the low nineties will require 31 million tons capacity.

Turning to the financial aspect of paperboard, Mr. Newberg pointed out that in 1958 the per cent return on equity in paperboard was the lowest in recent history, eight per cent. With big tonnage increases in 1959 profits have not increased to the degree to be expected with that volume growth. This has meant that the full increases in costs have not been reflected in selling prices.

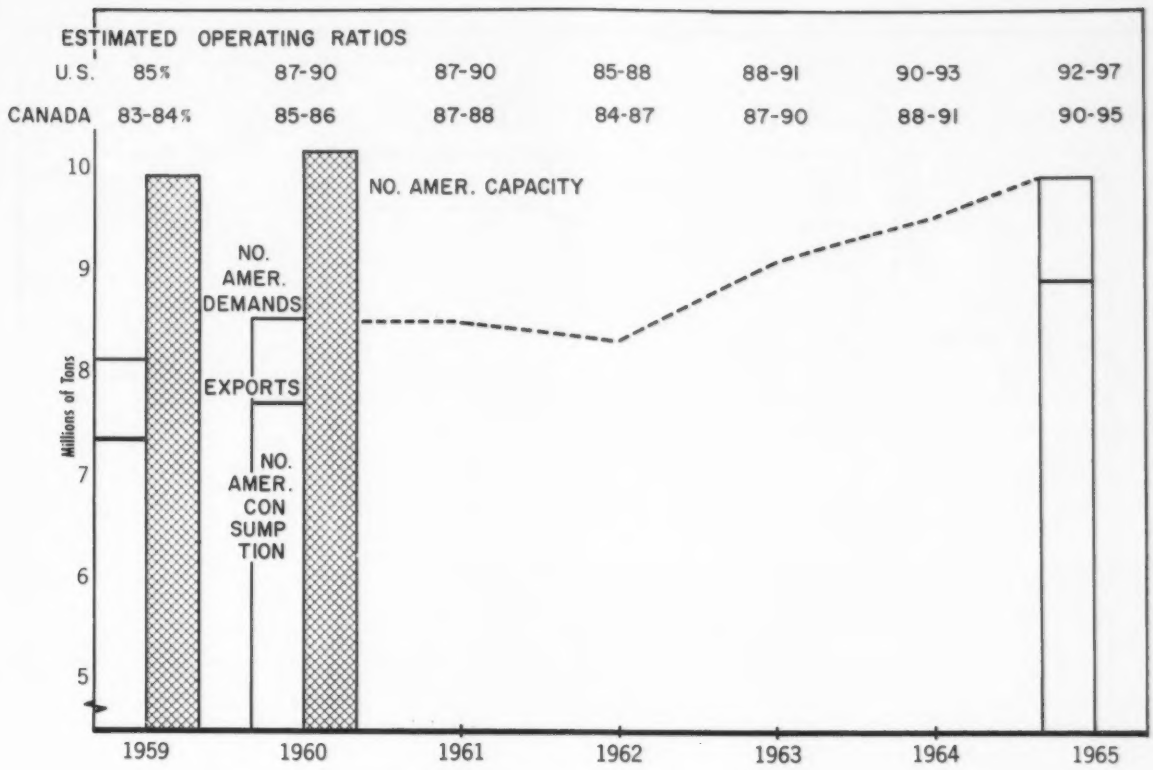
He compared investment turnover and per cent activity as shown in the accompanying graph. He also pointed out the pattern of profits as per cent of investment and as per cent of sales from 1940 through 1958, as is also shown on the graph.

Preliminary Report—M Tons

SURVEY OF PAPERBOARD CAPACITY BY GRADES 1958-1962

MAXIMUM OR ALL-OUT BASIS

		CONTAINERBOARD								BOXBOARD			
		LINERS	CORRUGATING MATERIALS										
ITEM	TOTAL PAPER-BOARD	Cylinder Kraft	Fourd. Kraft	Jute	Kraft	Semi-chemical	Straw	Other	Container Chip & Filler Bd.	Folding	Set-Up	Special Food Board	ALL OTHER
1958													
Capacity End of 1958	18,221	202	5,403	990	147	2,199	85	685	319	3,189	699	1,945	2 358
1959													
New Machines	53	—	53	—	—	—	—	—	—	—	—	—	—
Improvements	314	—6	117	7	11	35	—	28	5	93	1	2	21
Capacity End of 1959	18,588	196	5,573	997	158	2,234	85	713	324	3,282	700	1,947	2,379
1960													
New Machines	522	—	35	—	—	91	—	20	—	12	—	364	—
Improvements	332	—5	139	—5	3	89	—	10	1	43	4	29	24
Capacity End of 1960	19,442	191	5,747	992	161	2,414	85	743	325	3,337	704	2,340	2,403
1961													
New Machines	866	—	648	—	—	218	—	—	—	—	—	—	—
Improvements	110	—	—43	—15	—1	12	—	9	1	40	4	57	46
Capacity End of 1961	20,418	191	6,352	977	160	2,644	85	752	326	3,377	708	2,397	2,449
1962													
New Machines	301	—	—	—	—	—	—	—	—	68	—	156	77
Improvements	28	—	—	—	3	—	—	—	—	14	3	5	3
Capacity End of 1962	20,747	191	6,352	977	163	2,644	85	752	326	3,459	711	2,558	2,529
DAYS	339	345	354	326	353	345	336	322	326	324	318	346	330



Reviewing Newsprint Supply & Demand

Burnham and Co. members of the New York and American Stock Exchanges have just completed a detailed study of North American newsprint capacity and demand through 1965. The principal findings in this report are summarized here.

Using statistical techniques in addition to other quantitative information, Burnham and Co. have attempted to forecast newsprint supply and demand through 1965. Short term newsprint demand estimates have been developed from estimates of advertising lineage. Long term demand forecasts are based upon predictions of disposable income. For purposes of continuity, they have estimated interim (1962-64) demand by interpolation of the trend adjusted for the business cycle.

On the supply side, North American capacity is now 9.9 million tons; we expect capacity to be 10.1 million tons in 1960 and 10.2 million in 1961. At the present time, there are apparently no capacity increases planned beyond 1961, although Burnham and Co. believes it is likely that a combination of speed ups and new machines will bring on new capacity, particularly if demand should improve or if there are prospects of improvement.

The table provides a summary of estimated demand, capacity and operating rates for 1959 through 1965.

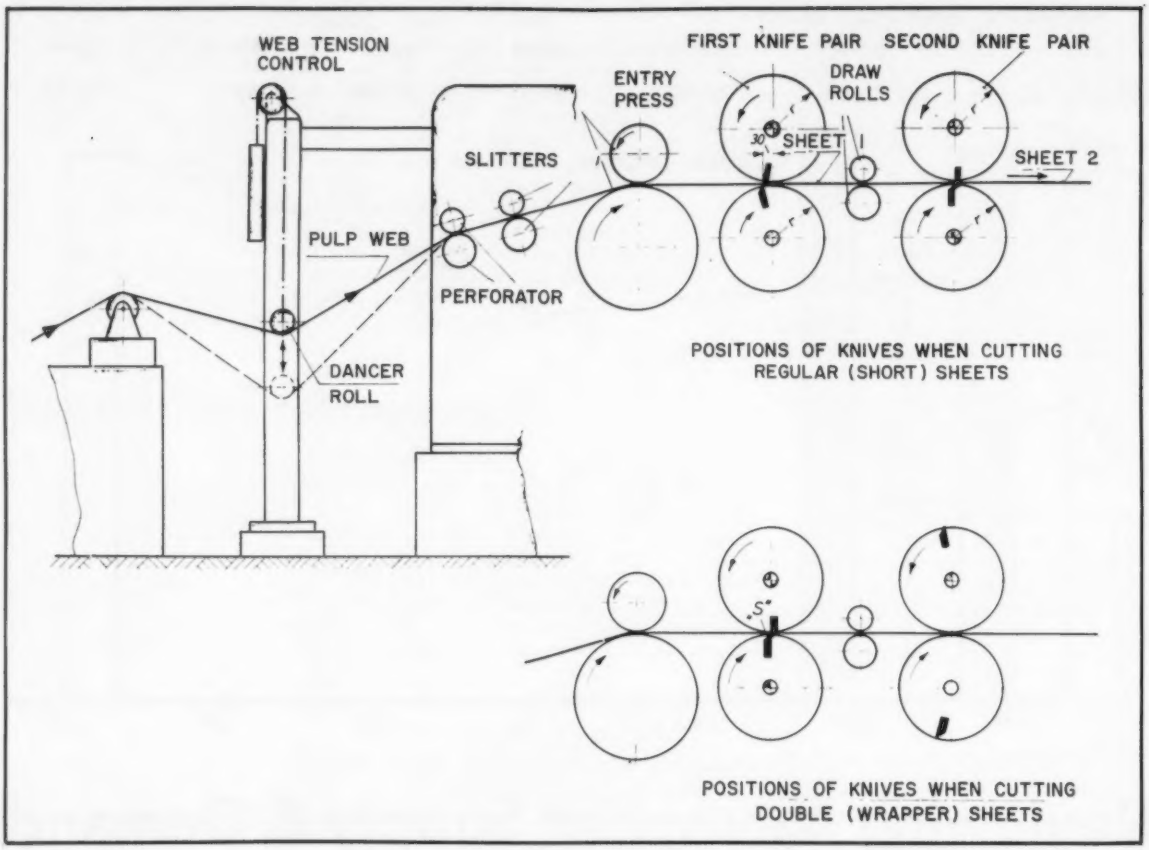
North American exports are expected to increase slowly, since foreign newsprint capacity has kept pace with growth in demand. Substantial growth in export tonnage could change these figures somewhat (although we do not expect this to happen). It appears that even if there are no further increases beyond the 10.2 million tons of estimated capacity for 1962 through 1965, the condition of excess capacity could continue in North America until about 1964. We would expect a slight year by year improvement in operating rates in all years but one. However, operating rates apparently will not substantially exceed 90 per cent before 1964 at the earliest.

Copies of the complete 11-page report plus graphs are available from Burnham and Co., 15 Broadway St. New York 5, N. Y.

Anthony M. Lamport is the author of this report.

ESTIMATED SUPPLY, DEMAND AND OPERATING RATES 1959-1965

Year	Est. No. Amer. Demand	Net Exports	Total Demand	Capacity	Est. Operating Rates U.S.	Canada
		mil. tons			%	
1959	7.35	.75	8.10	9.9	85%	83-84%
1960	7.70	.80	8.50	10.1	87-90	85-86
1961	7.70	.80	8.50	10.2	87-90	87-88
1962	7.60	.87	8.50	10.2	85-88	84-87
1963	8.05	.85	9.00	10.2	88-91	87-90
1964	8.50	1.00	9.50	10.2+	90-93	88-91
1965	8.90	1.00	9.90	10.2+	92-97	90-95



German Design of Pulp Cutter Is Widely Installed in European Mills

Based on a different cutting principle, this machine is reported to have a number of advantages. Details of a Swedish installation are given.

Pulp cutting equipment now being used by a number of European market pulp mills is reported to have certain definite advantages over conventional methods used in this country. Manufactured by the German firm of Jagenberg, these cutters utilize two rotating fly knives (instead of a stationary bed knife and rotating fly knife). Known as Synchro-Fly pulp cutters, they are said to have the following advantages over conventional equipment.

1. The weight of the web can be increased to the limitations of the dryer or the slitters (In cases where production is limited by the inability of conventional cutters to cut heavy pulp sheets).

2. Edges of the pulp sheet are cut perfectly square, yet not compressed as by other methods, hence break up more readily.

3. There is less wear and tear on the knives and periods of up to three years without sharpening are possible. These machines were specially developed for cutting pulp in line with a dryer and are known as model ZQSM/GL, other models are available for other needs.

At present there are ten Jagenberg Synchro-Fly pulp cutters in operation and three being installed in market pulp mills in Germany, Finland, France, Norway, Sweden, Japan and Chile. Made in several models, the outstanding feature of this cutter is the use of the two rotating fly knives which are synchronized to the speed of the web at the instant of contact. This means that the knife cylinders

revolve at an accelerated or decelerated rate for the remainder of the circle, depending on the length to be cut. In contrast, conventional cutter knives travel at constant speeds which are varied for different lengths of sheet.

Typical Installation

The Synchro-Fly model was developed exclusively for pulp cutting in line with the dryer section, and is the type installed at Svenska Cellulosa AB., Kramfors, Sweden. Handling a 165-inch web of unbleached sulphite pulp, this unit has been operating on a continuous basis for over four years. The pulp web has a basis weight of about 300 pounds per 1000 sq. ft. and moisture content ranges from 50 per cent to 86 per cent, o.d. basis. Production averages about 250 air dry tons per 24 hours.

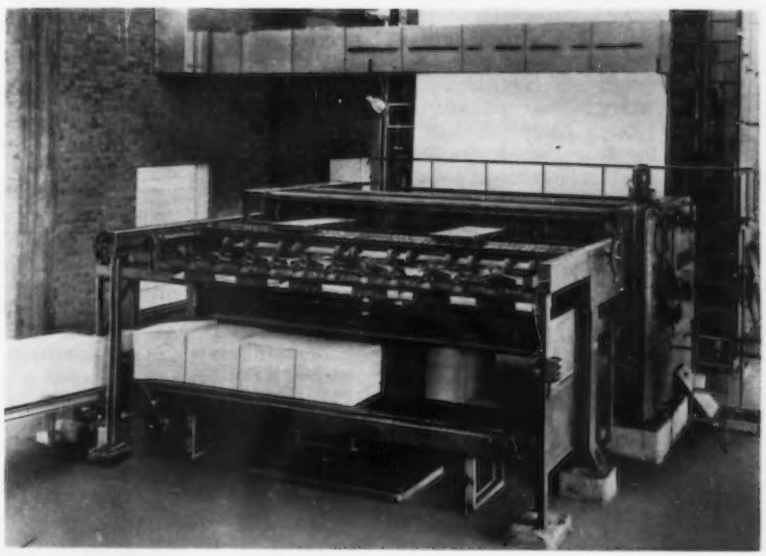
Only two sheet sizes are cut, namely, the mill's standard size of 26¾ by 26¾ inches and the double size for bale wrappers of 53½ by 53½ inches. For this reason the cutter at Kramfors is not arranged for variable sheet length. It has two pairs of Synchro-Fly cutting knives, each cutting to a length of 53½ inches.

When cutting the normal small sheets, the knives are adjusted so that the second pair will cut the 53½ inch long sheet in half, thereby producing sheet lengths of 26¾ inches. With a pushbutton the second knife pair can be re-cycled so that its cut will coincide with that of the first, thereby producing a sheet 53½ inches long. Torgny Olsson, mill manager of Kramfors, reports that the knives have only been removed for sharpening once since the installation of the cutter in 1955.

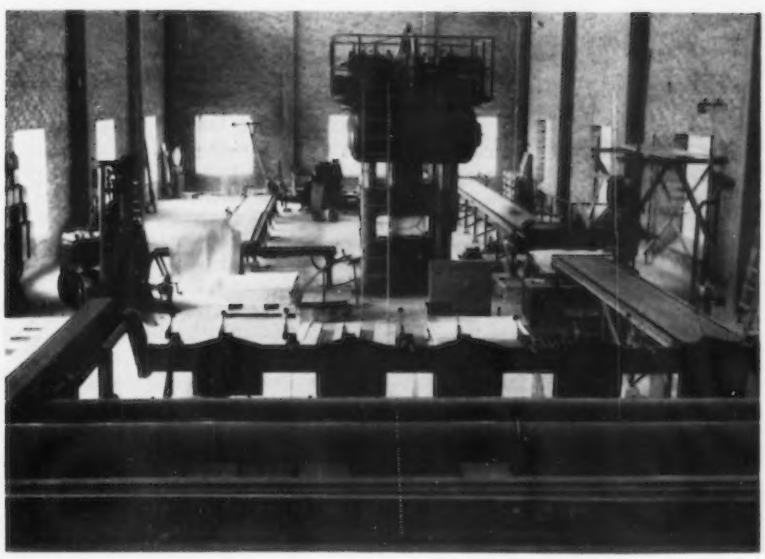
This machine features, instead of tapes, rollers with anti-friction bearings which carry the sheet from the knives to the layboy. The layboy lowers by hydraulic action and is equipped with a belt-type conveyor. The layboy is set for a pre-determined number of sheets on each pile. As soon as this number has been reached, the lowering table with the conveyor drops down and a set of steel fingers is ejected to receive the oncoming sheets. The conveyor of the layboy is actuated to move each pile to a platform equipped with rollers where an automatic pusher delivers them onto a second conveyor running at right angles to the layboy. The second conveyor delivers the piles to a weighing station where an operator adds or removes sheets to equalize the weight of the bale. Adjacent to the weighing station is the wrapping station where each pile is fitted with a top and bottom pulp wrapper and moved to the baling press where the piles are strapped and baled. Bale removal from he press to the shipping room is again by conveyor.

The cutter-layboy itself requires no attendance or supervision. One man supervises the entire drying operation including the cutter while the remaining personnel attends to the weighing and bale wrapping operations.

The Synchro-Fly pulp cutters are made by Jagenberg-Werke AG, Dusseldorf, West Germany, and supplied through its U. S. representatives, American Paper & Pulp Co., Inc.



▲ Synchro-Fly pulp cutter at Kramfors with automatic layboy at end of pulp dryer.



◀ View from pulp cutter bridge shows conveyors and weighing station at right, baling station in center of picture.

Maine-N.H. Group Discusses Stock Cleaning—Hears Report on Finland

St. Croix's vice president Fales gives his first hand account of a two-week tour of the Finnish paper industry during which mills making everything from newsprint to hand-made paper were visited.

The fall meeting of the Maine-New Hampshire Section of TAPPI was held at the Lafayette Hotel, Portland, on October 23-24. About 125 delegates were present for the convention starting with registration on Friday morning. The technical program on "Stock Cleaning" was directed by the general chairman, Prof. A. J. Chase, University of Maine, in the absence of C. T. Bockus, technical program chairman.

Prof. Chase welcomed all delegates and introduced the first speaker, R. V. Prive, Nichols Engineering & Research Corp., whose paper was entitled "Vortrap-Vorject-Vorvac."

The second paper, "Stock Cleaning Before the Paper Machine," was presented by Carl Perkins, St. Regis Paper Co.

The third paper entitled "Ceramics in Centrifugal Cleaning Equipment" was presented by Dean Kohlhepp, Black Clawson Corp. The fourth paper, "Centricleaners on Hardwood Pulp" was presented by Karl Dornish, S. D. Warren Co.

On Friday evening, a banquet was held. Prof. Chase introduced James Field from National TAPPI. Mr. Field congratulated the Section on its progress and offered assistance from TAPPI headquarters. The main speaker was Henry Fales, vice-president, St. Croix Paper Co. Mr. Fales gave an interesting account of his recent trip to Finland.

On Saturday morning a panel discussion was held with Robert Hisey, S. D. Warren Co., as moderator. Members of the panel were the speakers from the technical session. Information was given on the effect of centrifugal cleaners on short vs long fibers, free vs forced vortex, effect of back pressure on cleaning efficiency, etc.

The resignation of C. T. Bockus from the executive and technical program committees was announced by Prof. Chase. E. N. Poor, Hudson Pulp & Paper Corp., was appointed to the technical program committee and W. F. Wood, National Aniline Div. to the executive committee, to replace Mr. Bockus.

The executive committee announced the spring meeting to be held on June 17-18, 1960, at Mountain View House, Whitefield, N. H. Subject of this program will be "Refining."

Vortrap—Vorject—Vorvac

The first liquid cyclone classifier commercially applied to cleaning paper making stock was the Nichols Freeman Vortrap, reported Mr. Prive. These were first placed on the U. S. market in 1936 and at present there are nearly 5000 units in operation in this country. More recently developed have been the Vorject and Vorvac and some confusion has risen as to the differences between these units and specific function each is designed to perform.

Vortrap

Vortraps should be operated with positive outlet pressure; 2-4 lbs. is adequate, but they can be operated at higher outlet pressure. The pressure drop varies from 22-25 lb. down to 12-14 lbs. depending on the size of the unit.

The Vortrap may be operated as a standard unit, in a primary—secondary system, or with a tertiary system for greater reduction in fibre loss.

There are many applications where Vortraps can be used as a practical and economical answer to cleaning problems. They require only about one-half the horsepower of high pressure drop cleaners and, therefore, effect a substantial saving in power.

Vorject

The Vorject is designed to operate as a high pressure drop cleaner, and to provide the highest cleaning efficiency with a minimum of plugging difficulties and low maintenance costs. All sizes operate with a 50-lb. pressure drop and range from 100 to 480 g.p.m. depending on the size.

This cleaner is capable of doing an effective job of removing shives, sand, scale, and speck dirt which screens do not remove effectively. Air suction is prevented without the use of vacuum, eductors, or other similar devices.

Vorvac

The Vorvac is designed to remove both dirt and air simultaneously from paper machine furnish. Stock is pumped into the inlet heater at 10-lb. pressure. The vacuum at the outlet of the Vorvacs is 15 to 20-inches. A constant Vorvac outlet vacuum is necessary to insure a uniform rejects bleed rate.

There are two size units. One has a rated accepted capacity of 1125 g.p.m. and the other a capacity of 500 g.p.m. By installing units in parallel, any flow requirement can be handled.

The advantages that can be obtained through the installation of a Vorvac system are:

1. High dirt removal efficiency.
2. Eliminates foam in the headbox.
3. Eliminates headbox showers.
4. Decreases slime spots.
5. Increases drainage rate.
6. Improves fiber suspension.
7. Decreases steam requirements.
8. Increases production.

Speakers and Panel Members: Robert Hisey, moderator, and Karl Dornish, both of the H. D. Warren Co.; Carl Perkins, St. Regis Paper Co.; R. V. Prive, Nichols Engineering and Research Corp.; and Dean Kohlhepp, Black Clawson Corp.

Ceramics in Centrifugal Cleaning Equipment

Comparisons were given by Mr. Kohlhepp on the usage of various materials for liners in Liquid Cyclones. Inserts of metal, rubber, plastic and ceramic material were installed in the lower third of the cone.

After three months' operation definite wear patterns were visible in all but the ceramic inserts which showed no wear. Further evaluations of ceramic inserts showed no wear after one year operation.

Stock Cleaning Before the Paper Machines

Mr. Perkin described the new stock cleaning systems installed on the two Bucksport machines trimming 210 to 215 inches each and running at speeds of 12-1500 f.p.m. No. 1 machine produces 25- to 45-lb. uncoated book paper and No. 2 machine produces 40- to 50-lb. machine coated book paper. The old system had been made obsolete by overloading and wear.

Air Removal Systems

The primary reason for installing the new equipment was, of course, due to the need for clean paper without dirt specks, etc. Secondary reasons were prevention of damage to printing press cylinders and better operation on the paper machines and supercalenders. While the purpose of cleaning is to eliminate dirt and other foreign matter from the stock, economics require that the cost of cleaning labor, power and the loss of rejected good material be kept at a minimum. Despite the use of secondary and tertiary systems there is always some good material being rejected.

Bauer cleaners have been installed on both machines. In the original installation, one system used an eductor nozzle for air removal and the other used a vacuum pump. The eductor system experienced trouble due to plugging of the eductor nozzle with pebbles or pieces of concrete and an increase in fiber loss due to wearing of the underflow nozzles. The wearing of the nozzle resulted in more white water than necessary getting into the reject system. Based on comparison of the two systems, the eductor system was changed to a vacuum system.

The vacuum system operates at 23-inch vacuum. The pressure drop in the primary and secondary units is 50 lbs. and in the tertiary unit it is 40 lb.

The accepted stock from the Bauer Cleaners goes to five Selectifier screens for each machine. The inside of the screen cylinder is kept clear by air foil bars that have a .030-inch clearance from the screen. The recovery of good fibers rejected by the Selectifiers is done on a Jonsson flat screen.

Mr. Fales' Impressions of Finland

I recently spent two weeks in Finland as a guest of the Finnish Paper Mills Association, along with seven other American paper company executives. While there we visited 14 different mills making everything from newsprint to hand made papers. Between visits we were royally entertained by the Finns and got to know them quite well.

Some Background on Finland

As background information, I would like to tell you a few facts about Finland and the people who live there. As you may or may not know, they have fought two wars with Russia. Since the last one, which ended in 1944, they, in five years, have resettled approximately 430,000 homeless people from Soviet seized land, delivered to Russia in eight years, war reparations amounting to $570,000,000, mostly in hard goods. They lost over 17,000 square miles of land on which were many of their large industrial plants.

Finland has a population of approximately 4,400,000 people. During the war they had 40,000 men in service, with casualties of over 10 per cent. Finland is one of the few nations in the western world that hasn't received a nickel in Marshall Plan aid.

After the war when Russia annexed Karelia, the Finns in that area were offered the choice of staying in their homes there and becoming Russian citizens, or leaving their homes with only the clothes on their back. Of the 430 odd thousand Finns living in Karelia, only 80 people stayed.

Finnish Paper Industry

Finland manufactures approximately 1,500,000 tons of paper and board, of which about 1,000,000 tons is newsprint, and other papers, and approximately 500,000 tons is board. Forest products represent a large part of Finland's economy and pulp and paper is a very important segment of these forest products. Others are sawmilling, plywood, prefabricated houses and joinery industries.

The sales of these various products are handled by the associations. The

H. W. Fales, St. Croix Paper Co., tells of his Finnish trip. At his right is A. J. Chase, University of Maine, and at his left, J. W. Field, of TAPPI.

Cellulose Union sells the output of all of the chemical pulp mills; the Finnish Woodpulp Union, all the groundwood pulp; the Finnish Board Mills Association the kraft board; the Finnish Paper and Board Converters Association, foreign sales of converted paper and board; and the Finnish Paper Mills Association all of the paper sales.

I would like to tell you more about the Paper Mills Association. This association is owned and controlled by the member mills, with the presidents of the various mills acting as directors of the association—is divided into three departments: Department I handles the export sales of newsprint; Department II the export sales of all other types of papers; while Department III handles the sales of all papers in the home market.

The association pays the individual mill for its paper when it reaches the boat for overseas shipment. The association is allowed a 3½ to 5 percent commission, which goes to pay all of the association operating expenses, as well as the banking costs, sales agents commissions, freight and other miscellaneous expenses. At the end of the year all profits of the association are divided and sent back to the mills on the basis of tons shipped. The association operates in foreign countries through sales agents. In the case of the United States, the Finnish Paper Mills Association is represented by the Madden Corp. of New York City.

The Finns sell to 80 different countries with their main markets being England, United States, West Germany and South America. At the present time they are shipping approximately 120,000 tons of newsprint into this country and approximately 25,000 tons of other grades of paper.

Use of Female Labor

One of the first unusual things that you notice when you arrive in Finland is the large number of women working in the mills. When we visited the Kotka mill of Enso-Gutzeit Co., we saw men and women working on an equal basis, pushing logs into the jackladder of the sawmill. Also, the sorters in the sawmill were female. We were told that women comprise between 10 and 25 per cent of the total working force in the pulp and paper mills. We were amazed when we looked up and saw the travelling crane operators in the foundries were women.

One of the mill managers, when asked about this high percentage of working women indicated the heavy war casualties among the male population forced many of these women to support their families. Because of this fact it was actually necessary for them to work on these unskilled labor classifications.

We were all impressed with the extreme cleanliness not only of their mills, but of the country generally. This may be due to the female influence, since every paper mill we visited had a force of women janitors. Where we have male wipers on our paper machines, who usually disappear when the sheet breaks down, the female janitor on their paper machine was always in sight.

Labor Conditions

Labor rates were considerably lower in Finland than comparable ones in our country. Machine tender rates on high speed newsprint machines, such as are operated by the St. Croix Paper Co. and the Great Northern Paper Co., were approximately $1 per hour, with base labor lower in proportion. These can be compared with our rates at the same machine speed of over $4 per hour. We were told that the dollar in Finland would probably buy as much as $2 in this country. However, there is still a considerable difference in real pay.

This lower wage rate was, in our opinion, partially offset by the large staffs in their mills. A two-machine newsprint mill which would be operated in this country by approximately 350 people, employed over 500 people in Finland. Don't tell this to the unions—but every machine tender and back tender had a helper. The machine tender's helper was a boy of about 14 or 15 and this was the spot in which they placed their young people to train as papermakers; from that job they went to sixth hand, and up the ladder to fifth, fourth, third hand, back tender's helper, back tender and finally machine tender.

The Finns feel they must keep unemployment down or those people who are out of work will become Communists. For this reason they employ people, even though they may not need them. They would rather do this than support them through taxation.

Forests and Taxes

The forest in Finland were as clean and well kept as the inside of the paper mills. All trees are harvested by selective cutting practices with only the smaller trees going to the pulp mills. All trees over 5- or 6-inches in diameter are saved for the sawmills. It was interesting to drive through the countryside and see pulpwood, which had been draw shaved to remove the bark, piled in hollow squares for drying. There was no sign of slash anywhere, since it apparently is removed or burned as soon as the tree is cut down. Finnish law requires all pulpwood which is to be floated in the water any length of time to be barked beforehand.

In one town we visited, we learned that within the last 10 years, three new schools had been built, a new Town Hall, and approximately 600 worker-owned homes.

Individual taxes are high. Industry pays about the same as it does in the United States. Our information indicated a company pays about 12 per cent of gross profit to the community,

40 per cent to the state and one per cent to the church as taxes. In a town of approximately 14,000, taxes of approximately $1,000,000 were raised each year. The paper company, which was about the only industry in the town, contributed 10 to 12 per cent of these taxes, with the balance being raised through individual taxation. We were told an individual earning $2500 must pay taxes of about $500.00. This is of course, a much higher rate than ours.

Education in Finland

Schools appear to be excellent, at least in physical appearance, and from the apparent technical excellence of the Finnish engineers, the educational system must be as good as the physical properties. In Finland it is compulsory for each child to go to school for 7 or 8 years. After that the good students go on, but the others must go to work and are put into the worker status for the rest of their lives, without much hope for further advancement. The above average student goes on to high school and then, if able, to the technical universities. In Finland the engineer seems to have a higher social status than any other professional man, such as the doctor and lawyer.

In the paper and pulp mills, all department superintendents were technically trained university graduates. The practical man wouldn't be allowed to head up a major phase of their business.

At one mill we visited a company trade school in which 84 boys of ages 16 to 18 were studying. These boys were at this particular school for three years, working in the mill during the summers months. Most of them were sons of empolyees of various mills. They were being taught machine shop practices, electricity, and paper and pulp making. Upon graduation they went to work in the mills full time. After one year's compulsory army service and about three years as a worker, they were promoted to foremen positions. In this way each company seems to train its own supervisors.

Technically I do not think we saw any startling developments. As I mentioned earlier their technical people are extremely well trained and very competent. It was my feeling that age for age the Finnish engineer was further advanced than the majority of our young engineers. The Finn seems to be better trained when he leaves the universities and is able to take over responsibility faster than the average graduates of our universities when they enter our industry.

Interesting Points in Mills

In newsprint they are operating paper machines, a number of them manufactured by Beloit in the last few years, as well as we are operating ours. In many cases they are holding the speed down, due to depressed market conditions. They are very quality conscious. They recognize they have only one thing to sell and that is quality. This makes them extremely good competition and I am sure we are going to hear more of them as the years go by.

We saw at least 5 new high speed newsprint machines being installed and since returning to the States I have read of two more being ordered. In addition, we also saw several kraft board and sack paper machines being erected.

Due to the high price of coal the Finns have made every effort to save B.t.u.'s. We saw many sulphite waste liquor recovery boilers on calcium base. One mill manager informed us that he had saved over 50,000 tons of coal last year from his calcium recovery boiler operation.

It was interesting to note the wide spread use of the Sulzer blower as a vacuum pump. This centrifugal compressor is generally used throughout Finland as the vacuum pumps on paper machines. We were all very enthusiastic about this. We saw a number of high-speed wide newsprint and kraft paper machines with their vacuum requirement being supplied by one of these pumps using a 750 h.p. motor. A number of us agreed the next time we found it necessary to install a vacuum pump the Sulzer was certainly worth a trial.

Anybody who visits Finland and talks about it must, before he finishes, tell of the Finnish bath or as it is known there—the Sauna. Basically it is something like the New England clam bake, with the individual being the clam.

Morris Paperboard Works with Moore and White on Modernization

Another step in the over-all modernization program at the Morris Paper Board Co., Paterson, N. J., was completed recently by the Moore & White Co. of Philadelphia.

The important problem to be solved involved providing ways by which Morris could increase its production and quality without radically changing its present equipment. According to Larry Bayer, plant engineer at Morris, a new Moore & White Upright Reel and new press section have accomplished both objectives.

The reel allows Morris to handle rolls up to 60 inches without splice on rewind and a better control of the winding and rewinding tension. While a 60-inch roll is being wound at the top of the upright reel, the rewinding and trimming of a completed roll is simultaneously taking place at the bottom. The air controlled brake and clutch of the reel is a prime factor in achieving the desired tension needed for each roll.

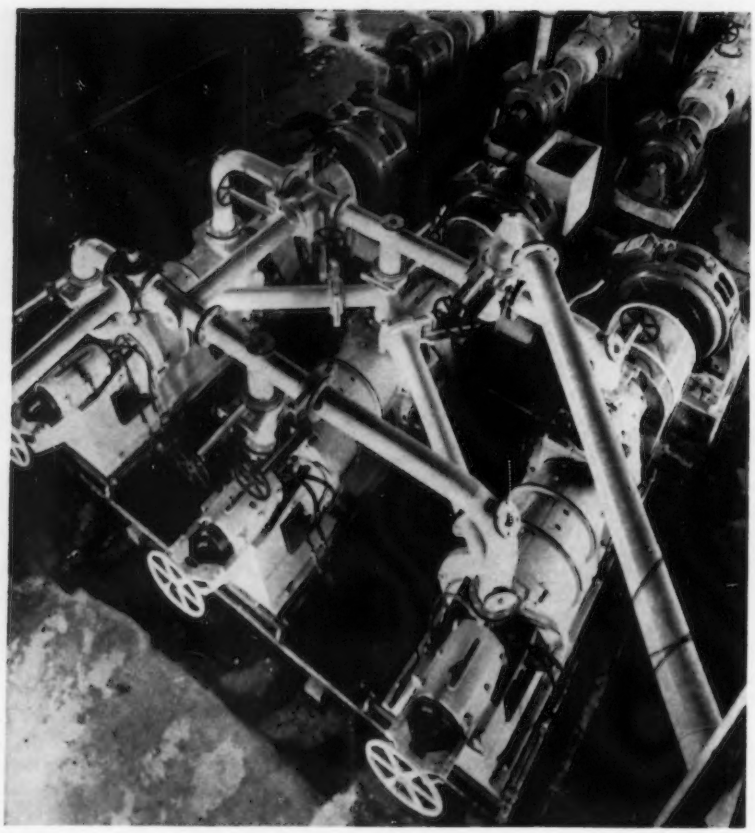
Moore & White also installed at the same time, a new third and fourth primary and first main press section on the Morris machine.

One of the most important features of the new Moore & White section is its low maintenance quotient. Because of its arrangement for the hydraulic removal of bearings, workmen can now change bearings in 15 minutes, a job which took them 4 to 6 hours on the older section.

Moore & White has been working closely on the modernization program at the Morris Paper Board Co. for over a year. Their engineering and research departments have developed several time-saving and efficiency-increasing improvements of which included the recent installation of five spiral bevel drives on their paper drying and calender stack sections.

New paper machine is supplied by stock preparation system beginning with batch Hydrapulper in upper left corner. Bales are fed to pulpers by specially designed conveyors. Pulped stock is refined by three units in foreground.

Townsend Hook Adds Machine For Magazine Papers

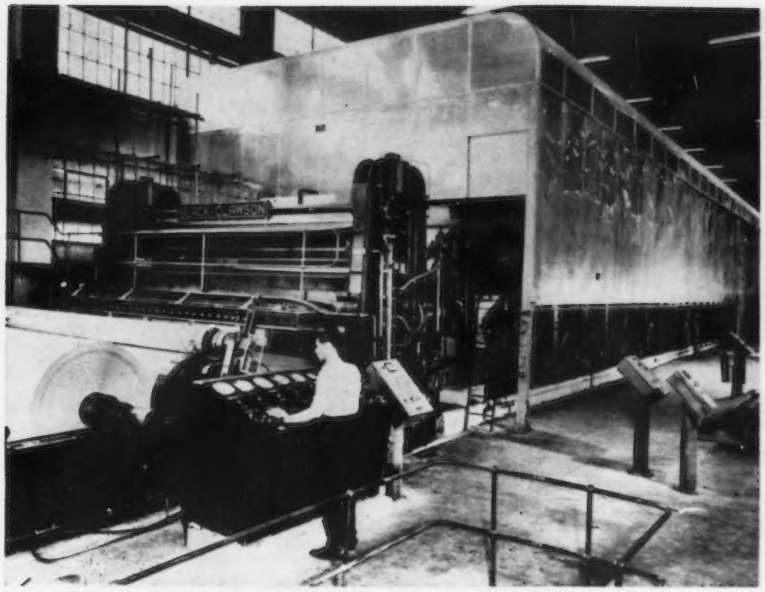


The mill of C. Townsend Hook & Co., Ltd., Snodland, England, recently started up a new Black-Clawson paper machine designed to make magazine printing papers. The paper machine and the stock preparation system were supplied by Black-Clawson International, Ltd., London, which also engineered the flow of the new system and its instrumentation.

The Snodland mill receives its pulp by barge. Overhead cranes unload the barges and carry the pulp to a storage yard, from which it is taken into the mill as required by overhead cranes and power trucks.

In the paper mill, the pulp bales are fed by specially designed conveyors to two batch Hydrapulpers in which they are slushed at a high consistency. The two Hydrapulpers are installed so that they can be operated on two independent stock lines. At present, however, different types of pulps are not treated separately because the intermixing provides a desirable furnish for the class of paper now being made.

Overhead view of three Black-Clawson jordans which give stock final treatment before going to four Selectifier screens and the paper machine.



Producing magazine printing papers, the paper machine operates at speeds up to 1200 feet per minute. It trims a sheet 168 inches wide.

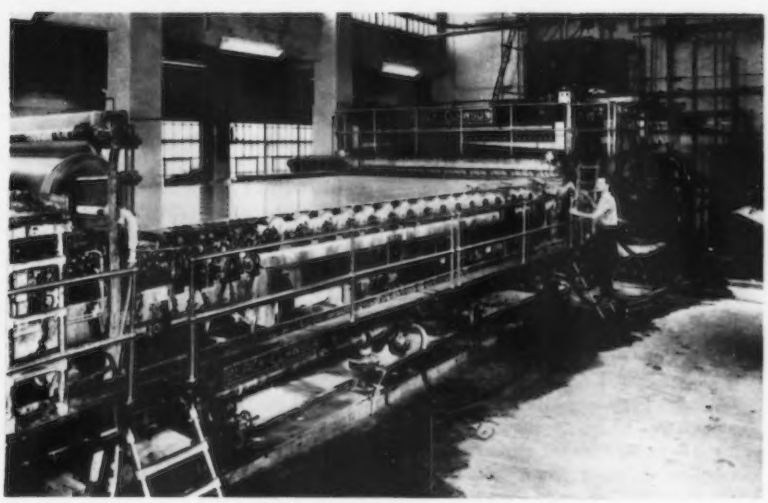
From the Hydrapulpers, the pulp is pumped to the Hydrapulper dump chest, from which the flow of the system becomes continuous. Blended pulp is treated first in three 4B Hydrafiners and then goes to the machine chest where water is added by means of a consistency regulator. From the machine chest the stock receives final treatment in three Black-Clawson No. 2A jordans and is pumped through four Selectifier screens to a pressure controlled head box of Black-Clawson design.

The instrumentation for this system consists of a simple master orifice meter with several slave orifice meters controlling the additives.

The head box can operate under vacuum conditions for lower speed ranges or under pressure for higher speeds. The level in the head box is kept constant to insure that the evener rolls are always covered.

The paper machine is designed to operate at a maximum speed of 1200 feet per minute. It produces a sheet of 168-inch trim. The head box delivers stock to the cantilever fourdrinier which carries a wire approximately 185 inches wide and 90 ft. long.

The machine has a suction couch, two suction presses, a smoothing press, and drying section with partially enclosed hood.



Paper machine has pressure controlled headbox which can operate under vacuum for lower speeds or under pressure for higher speeds.

PJT NEW LITERATURE

Silicone Antifoams

What causes foaming? How can you control costly foaming problems? Answers to these and many other questions are given. Also explains how to choose the proper defoamer for both aqueous and non-aqueous systems. Bulletin CDS-204 General Electric Co., Waterford, N. Y.

Atlac 382 Polyester Resin

"Properties and Use" bulletin contains detailed instructions on using this resin and includes information on curing at elevated temperature. An 11 page technical bulletin provides practical information on using the room-temperature curing system for Atlac 382. Atlas Powder Co., Chemicals Div., Wilmington 99, Del.

Automatic Dynamotive

Includes engineering drawings, load capacity chart, standard mast specifications, inches, specification and performance data on models GLFP-40 and 60. Bulletins 6008-A-R and 6009-A-R. Automatic Transportation Co., 101 W. 87th St., Chicago 20, Ill.

American (Disc-Type) Saveall

Details the principles of operation, design characteristics and advantages of this filter which is widely used in the pulp and paper industry for recovery of suspended solids from paper machine white water. Also includes photos and flowsheets of typical plant installations. Bulletin 3306. Dorr-Oliver Inc., Stamford, Conn.

Dyestuffs Vol. 43 No. 3

Includes articles on "Dyestuffs and Papermaking Grew Up Together", "The Age of Reason for Color", "Hurdling the Barrier of Indifference" and "Color Matching via Pigment Identification". National Aniline Div., Allied Chemical Corp., 40 Rector St., New York 6, N. Y.

Outdoor Exposure of Container Grade Paper-Overlaid Veneers

Report No. 2151 by A. A. Mohaupt, engineer at Forest Products Laboratory, gives results of toughness tests and visual examinations of 16 container-grade, paper-overlaid veneers that were exposed outdoors for a year. Free upon request to Director, Forest Products Laboratory, Madison 5, Wis.

New Method of Removing Paper Dust Produced in Converting Operations

Specially designed slot type hoods have proved successful at Crown Zellerbach's converting plants at Antioch and Los Angeles.

R. E. Futer,
President,
Engineers Associated Inc.,
Berkeley, Cal.

Recent studies made by Engineers Associated, Inc., in the movement of solid particles by air, have led to an important new method of removing paper dust generated in paper converting operations. Our studies in the field of air conveying of solids have included such design criteria as terminal velocity (the air stream velocity minimal to transporting a given material), capture velocities, air-to-solids ratios, and the methods of deposition of the airborne particles.

As an outgrowth of this work, industrial engineers at Crown Zellerbach Corp. concerned with the evils of dust laden air in their converting operations, presented the problem to the engineers for a practical working solution.

The problem common to virtually all converting operations is aggravated in the department of tissue perforating and rewinding immediately prior to packaging. The conditions here influence adversely morale, turnover and productivity. The dust settling out and building up, as it does, on everything from electrical switch gear to light fixtures or space heaters, being readily ignitable, presents an outstanding fire hazard. Inadvertently, this was put to the test when a welding spark caused a flash fire.

This dust can accumulate several inches deep on any horizontal surface, and of course provide a perfect tinder. Unmeasured thousands of dollars of dust damage by infiltration of dust into equipment has occurred. Indeterminate are the losses caused, or at least aggravated, by the abrasive paper dust. Electrical and electronic equipment is particularly susceptible. Lastly, the direct out-of-pocket cost of crews, working to maintain some degree of house cleaning in order to minimize the foregoing troubles, is a big expense which can be tremendously reduced through automated removal of the dust and small waste.

Over-all Hooding Impractical

Earlier attempts to deal with this problem have had disadvantages and limitations. Overall hooding of rewinders and other items of equipment is both costly and impractical. The interference to the operator effect the productivity very adversely. A modified hooding over the machines, leaving access room for rethreading the paper, does not provide the answer for several reasons . . .

1. The interference with monorail operation.
2. High horsepower requirements by reason of the tremendous quantities of air which must be removed to do a given amount of work.
3. Heat losses in cold weather periods become exorbitant.
4. Capital expenditures are high.
5. Unless air volumes are tremendous, a large percentage of dust never does become entrained in the outgoing air stream and settles on personnel and equipment.

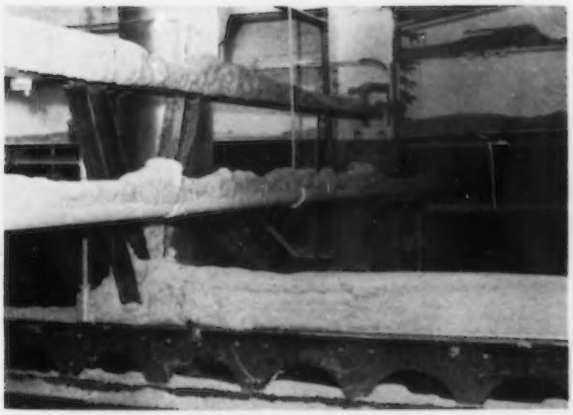
Collection of the dust and waste from high speed air streams, without emitting objectionable quantities to atmosphere, had only met with varying degrees of success and sometimes presented a problem of what to do with the portion of the waste which was deposited, leading to additional handling costs.

Solution—Slot Type Hoods

Each of the foregoing objections was either partly or entirely eliminated in the process developed and installed subsequently in two of the large converting operations of Crown Zellerbach at Antioch and Los Angeles, Cal. It became readily apparent that here indeed the application of high velocity slot-type hoods could, if properly applied, be an ideal solution. In 1957, pilot model studies were made with material and jury-rigged equipment at the former San Leandro facilities of Crown Zellerbach Corp., followed by shop tests of various hood designs, to result in a slit-type hood which could produce an even inlet air velocity across the entire 90-inch length (a maximum of 90-inch wide rolls were being processed).

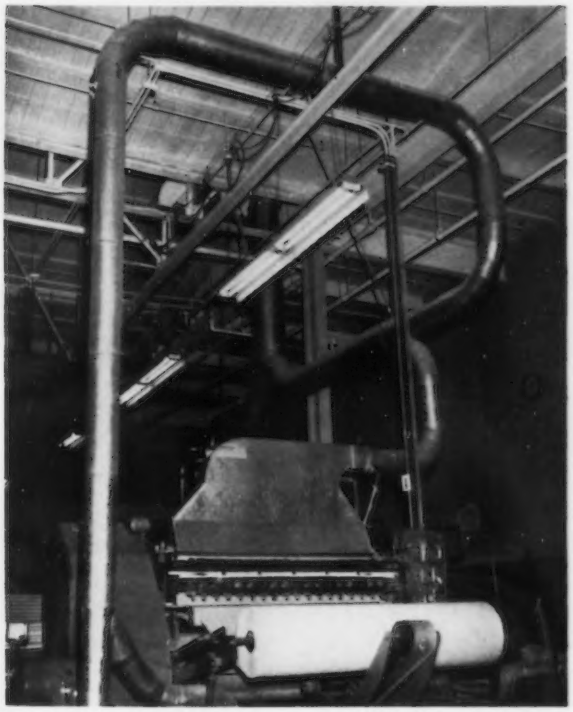
The influence of inlet slot width and face effects were altered and measured for their influence on capture velocity conditions. Out of these experiments came a fish tail interior baffled hood and plenum chamber arrangement which can be observed located over the winders in the accompanying photographs. This hood will hold within approximately 10 per cent of constant velocity across the entire length of the slot, (or conversely the width of the web). With this development came the possibility of sweeping the traveling web, such as might be envisioned with a large vacuum cleaner, so that as this web passed the slot it would be swept free of the dust which was either lying on the surface of the web or entrained in the fraction of an inch of air skin traveling along with the the moving web.

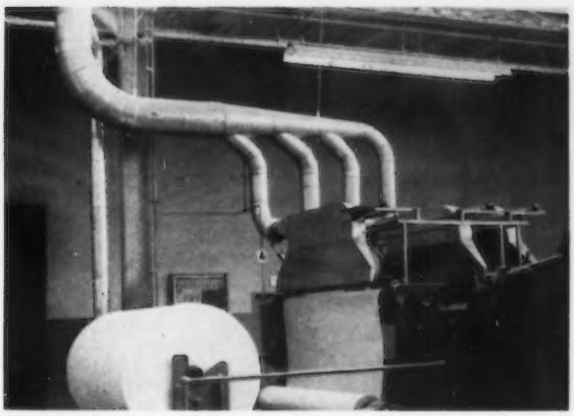
Designers then went to work on the principle of readily retracting



▲ Typical paper dust accumulations without a dust collector system in operation.

▼ Sub-main ductwork and retractable fish tail hood over paper equipment.





◄ Cant-winder installation of constant velocity, suction hoods of narrow slot type sweeping dust off web. Pneumatic retraction for ready access.

this type of hood, mounted over and adjacent to the rewinders, so that the machines could be serviced as readily as prior to the presence of the hoods. As designed, these hoods now swing aside by pneumatic action through controls located at the operator's station. Each, or all, of the slot hoods may thus be retracted by a switch.

Placement of Hoods

Proper location of these hoods on tissue rewinders was determined by further field studies, to date confined to Hudson Sharp and Paper Converting Co. machines. Further study was made of their successful application to other items of equipment, such as towel interfolders. The uniqueness of these slot hoods and their application have led to patent claims for them.

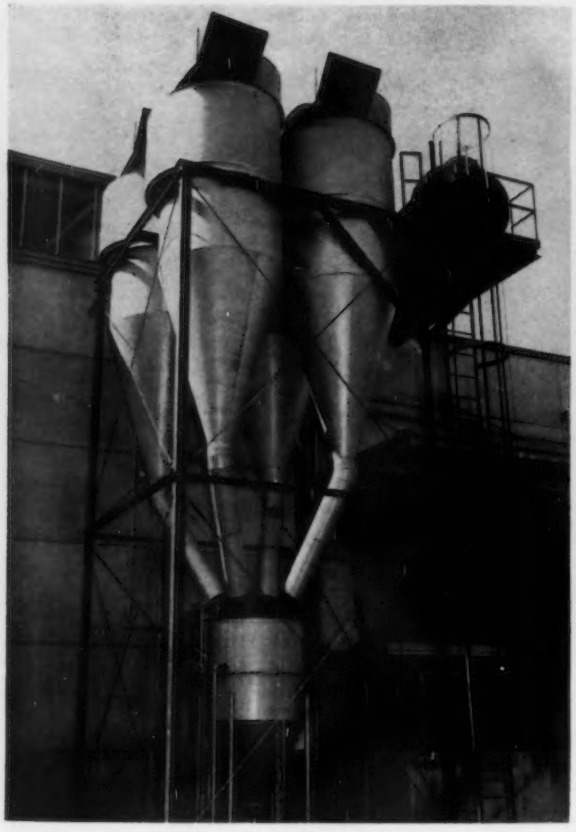
Placement of the hoods was of next concern. Here were overcome the obstacles of obtaining sufficient capture velocity without increasing air demands (and horsepower and heat loss), and at the same time without "inhaling" the web of tissue itself. Actual tests have shown that it is easy to draw the web itself up into the exhaust hood during a momentary slack of the web, if the hood placement is improper. In addition to locating retractable hoods above the machines to sweep the top side of the web, under side hoods were also necessary. These are normally not retractable, but serve to pick up the dust generated both within the machine and on the underside of the paper. A study of the accompanying photographs will show the system of duct work leading to the hoods in a typical machine, and how the branch ducts from these hoods are joined into a sub-main duct to subsequently join the main.

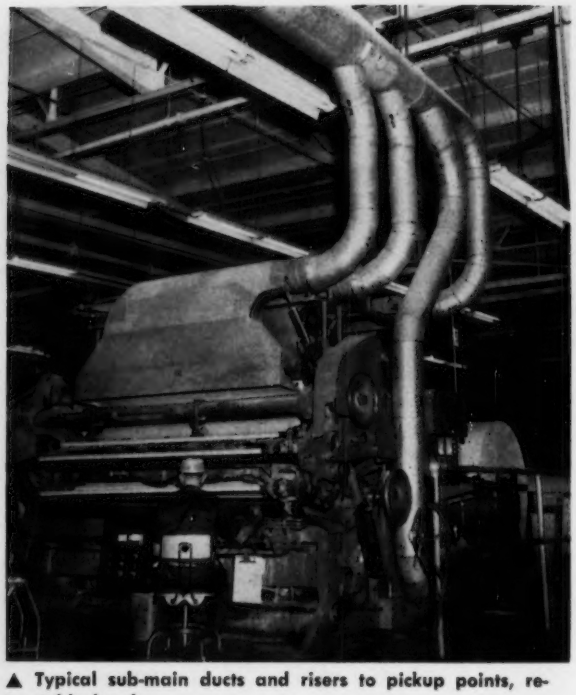
Number of Exhaust Systems

The duct work system, together with the power units—exhaust blowers—are of conventional design. They are, of course, sized properly to maintain constant velocities and balances throughout, and for an optimum between cost and proper performance. Considerations were given here mainly to the pros and cons of a single exhaust system (one blower versus the alternate of a separate exhauster for each machine). The latter was not considered justifiable, and conversely, a single blower was deemed too inflexible to satisfy service conditions at approximately ten different machine locations. It was therefore decided to use three separate exhaust systems, each serving a certain group of machines. In the more recent installation, the two unit system appeared most advantageous. It is interesting here to note that comparative studies of cost of operation compared with canopy-over-machine type hoods will result in savings of power for motors, heat exhausted (based on California conditions), and allowances for maintenance and operation of the system, which combine to a figure in the order of $10,000 annually saved, without even including amortization savings by reason of a lower capital investment cost.

Removal of Dust from Air

Methods of separation of this very fine, light dust from the air stream





▲ Typical sub-main ducts and risers to pickup points, retractable hoods.

◄ System in service shows no visible discharge from high efficiency collectors using closed system of wet scrubbing with automatic waste disposal.

were investigated quite throughly. Particle size and nature eliminated conventional cyclones from being considered, nor did batteries of high efficiency type cyclones with rotary locks appear suitable from the cost or operating standpoint. It is observed that quite often long, stringy and fairly thick waste can intermittently be introduced into the system, which too easily can foul mechanisms such as rotary locks or flap gates. Inasmuch as such a high percentage of the material was in the low micron size range, it appeared that possibly elaborate wet collection or dry cloth bag collectors would become involved. Suspecting that some middle of the road design was possible, a series of tests and experiments were carried on which resulted in a new approach. As developed and now in operation at both these installations, the collectors consist of high velocity centrifugal separators combined with wet spray impingement into a water chamber which at the same time provides an air lock without moving parts. Agitation by means of jets, breaks the larger solid masses down and disperses them so they may settle out in the sludge tank. It has been demonstrated that the centrifugal separators will not function without the water lock principle, and that this does insure that even the very fine particles in the low micron range will be collected and not escape to atmosphere to again become a nuisance.

Waste Disposal

The solid wastes, now collected as sludge in the settling tank, are automatically timer-controlled for a cycle dump hydraulically through a sludge pump into the sewer system. Thus, the material is never seen nor handled manually once it enters the hood at the winder. The dump and ejection cycle is automatically controlled and may be set to operate either cyclically with timer controls which also governs replacement of the evacuated water. Since all impingement water is on a recirculating basis from the settling tank, there is no water demand for this purpose. This recirculation is made possible by a set of screens and baffles which are automatically backwashed and cleansed during the dump ejection-to-sewer cycle, which occurs for only a few minutes once or twice a day. Therefore, the total amount of make-up water may be held to a few hundred gallons a day.

In another installation where water cost was not an important factor and where sewage loads did not have to be considered, a much simpler design was used. This system also automatically ejects the sludge waste, but on a continuous basis. It was thought desirable in this instance to use a water jet ejector system in lieu of a sludge pump, further simplifying the installation requirements, operating as it does by means of supply water pressure.

Results Obtained

A natural consequence of both the Antioch and Los Angeles installations at Crown Zellerbach Corp. has been the improvement in atmosphere, which occurs as a result of the mild circulation of air in and around the machines.

Valid proof of the purity of the new air condition was provided when independent testing laboratories made "before and after" dust count measurements. Typical dust levels which were in the order of 50 mg. per cubic meter are now at the very respectable 1 mg. range.

New "brain cells" for precision chlorination control

Here's another exciting development from Diamond's customer-service research. These low-cost chlorination cells are rugged, precise, completely dependable . . . give you a simple means of measuring oxidation potential to control chlorine reaction in vessels or sample lines.

No other chlorination cell combines these advantages:

1. Both electrodes are in a single body.
2. Resists virtually every condition encountered in paper mills and other applications of oxidation-potential principle . . . including high pressures and temperatures up to 200° F.
3. Lowers routine maintenance.
4. Reduces down time of automatic control system.
5. Eliminates bridging between electrodes by fibers.
6. Eliminates need for diluting stock or for separate sampling line.

The skill of the Diamond technicians who developed this chlorination cell, the facilities of the Diamond Pulp and Paper Laboratory and thirty years of manufacturing and shipping experience of one of the world's largest makers of CHLORINE and CAUSTIC SODA make Diamond your logical supplier for CHLORINE and CAUSTIC SODA. Call your Diamond Sales Office or write . . . DIAMOND ALKALI COMPANY, 300 Union Commerce Bldg., Cleveland 14, Ohio.

Diamond Chemicals®

PJT NEW EQUIPMENT & SUPPLIES

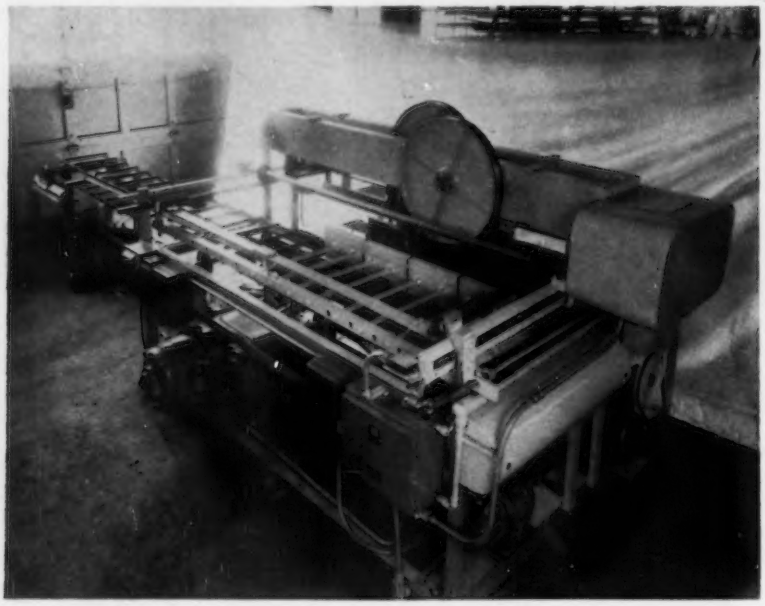
Portable Psychrometer Employs Thermistors

A portable thermistor psychrometer, which measures the moisture content of air by means of wet and dry thermistor beads in a matter of seconds has been introduced by the Atkins Technical, Inc., Cleveland, Ohio.

This instrument has three scales for measuring humidity in temperatures ranging from 10°F. to 176°F. (or —10° to 80°C.). Accuracy is within 0.5 per cent of relative humidity and readability within ¼°F. To use one "trigger" button is pressed and the dry air temperature is read immediately; then another button is pushed to read the wet bulb temperature. Atkins emphasizes that both readings are made in less than ten seconds and the relative air humidity is quickly read from a conventional psychromatic chart or slide rule.

"A+Hygrophil" employs Thermophil temperature sensing probes in its construction. Their very high thermistor resistance temperature coefficient provides great sensitivity to temperatures. Wet or dry bulb temperature is indicated directly by the instrument using imbalance of a Wheatstone bridge circuit.

To operate in places with explosion hazards, "A+Hygrophil" can be fitted with a spring coil motor, instead of the battery powered motor. Further information can be obtained by writing for Bulletin HHVM, Atkins Technical, Inc., 1276 West Third St., St., Cleveland 13, Ohio.



FOR CUTTING INTERFOLDED, BANDED LOGS is this machine recently introduced by the Hoell Machine Co., Green Bay, Wis. It features dual or single log feed from an accumulating conveyor, the cycle beginning as the infeed positions are filled. A staggered outfeed onto a constant speed belt conveyor moves the product to the packing area. The band type knives are maintained at a sharp central edge by precision grinding fixtures which are operated by a remote push button or at intervals, automatically. As noted by Mr. Hoell, a clean cut is obtained on a variety of stocks ranging through tissue, wax to heavy interfold towel with a production rate of ten 50-inch logs per minute.

Output Speeds Increased For Gearing Units

Moduline gear drives with an output speed of 420 r.p.m. are available for use in side entry agitators. These units permit the use of concentric gear motors in an output speed usually available only in offset shaft construction. Previously, these units were available with output speeds up to 350 r.p.m.

Change gear sets to provide this output speed are in stock for Moduline unit sizes one through five inclusive. The total ratio of concentric shaft units using these sets are 4.17:1 producing an output speed of approximately 420 r.p.m. with an input speed of 1750 r.p.m. When used with right angle output units, the output speed is 280 r.p.m. with a total ratio of nearly 6.2:1. For further information, write Westinghouse Electric Corp., P.O. Box 2088, Pittsburgh 30, Pa.

Penton-Lined Pipe and Fittings

Development of all-Penton and Penton-lined metal fittings and metal pipe with injection-molded Penton-lining for handling solvents and hot corrosive fluids has been announced by Tube Turns Plastics, Inc., Louisville, Ky. "Penton" is a registered trademark of Hercules Powder Co. for chlorinated polyether thermoplastic.

Both all-Penton and Penton-lined pipe and fittings will cost substantially less installed than metals, alloys and other materials conventionally used for process piping above the temperature range of unplasticized polyvinyl chloride and up to about 280°F., the announcement said.

TTP said that initial production plans call for all-Penton elbows, tees, couplings, caps, plugs, flanges, unions, nipples, reducer couplings and reducer bushings to be produced in ½ inch to 2 inch sizes, threaded and socket type, Schedule 80, to match presently available 20-foot lengths of Penton pipe. Carbon steel and

Pump enough water in two minutes to make two thousand lbs. of paper!

To make a ton of paper, you need approximately 12,500 gallons of water.

It would take just *two minutes* for a twelve-inch Goulds Fig. 3405 to supply it. This medium-size pump provides giant-size capacity: 6400 gallons per minute!

And to keep water flowing, you stock only a minimum of spare parts. Just three groups of parts fit thirty-three sizes of the 3405. All parts are interchangeable except casings, casing covers and impellers!

That means that for every three to five pumps of a given group size, you stock just one shaft, one set of bearings, sleeves, mechanical seals or packing. You can cut inventories as much as ninety-one percent, yet be fully covered for emergencies.

Heads go up to 425 feet. For more data, write to Goulds Pumps, Inc., Dept. PT-79, Seneca Falls, N. Y., for Bulletin 721.6.

GOULDS PUMPS

DARLING'S ANIMAL BONE GLUE
SERVES THE PAPER INDUSTRY

with Technical Counsel and Product

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ADHESIVE
for
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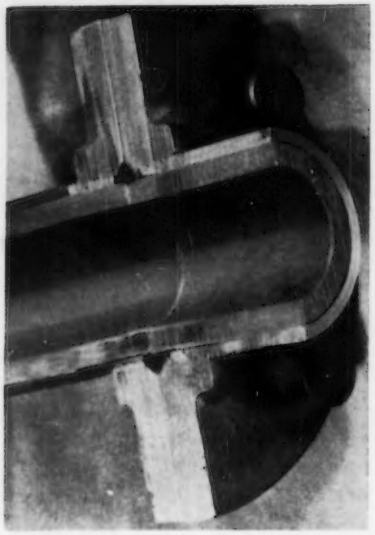
- Gummed Labels
- Tube and Can Winding

and now
- **PAPER COATING**

as a
CHEMICAL
for
- improved Retention of fibre and filler
- increased efficiency in Flotation Savealls

See your DARLING Representative or write DARLING & COMPANY, Glue Division, 4201 South Ashland Avenue, Chicago 9, Illinois

DARLING'S
Limehouse BONE GLUE



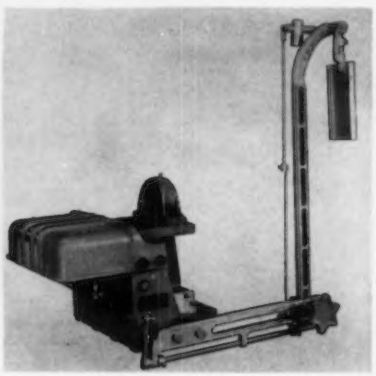
aluminum pipe lined with injection-molded Penton and Penton-lined cast-iron and cast-aluminum flanged fittings, including elbows tees and steel-flanged Penton-lined stubs, are planned in ½ inch through 3 inch sizes. Lined fittings will conform to ASA B16.1, Class 125 dimensions.

All-Penton pipe and fittings, TTP said, can be joined readily by thermal welding of socket-type fittings or by threaded connections, with a back weld recommended. Penton-lined fittings are flanged for bolting and have Penton raised faces. Lengths of Penton-lined pipe joined by threaded or welded flanged connections or by a thermal butt weld reinforced with a light-wall steel connecting sleeve. Each method provides for Penton-to-Penton contact, avoiding contact between corrosive fluids and metal.

Alvin H. Johnson & Co.
INCORPORATED
Consulting and Designing Paper Mill Engineers
415 LEXINGTON AVENUE NEW YORK 17, N. Y.
PAPER MILL DESIGN PROCESS ENGINEERING POWER PLANTS
STRUCTURAL AND ARCHITECTURAL DESIGN
REPORTS APPRAISALS ESTIMATES AND SURVEYS

Felt and Wire Guide Moves By Air Pressure

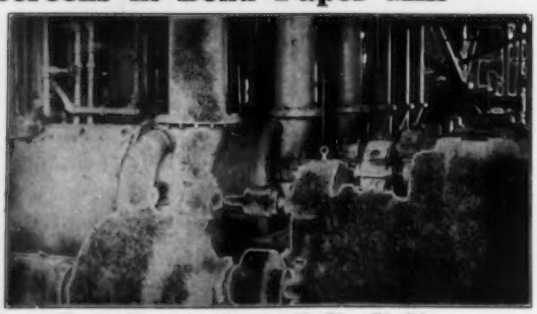
A large size Gilbert & Nash felt and wire air guide is announced by Appleton Machine Co., Appleton, Wis.



Three APMEWS Replaced a Big Room Full of Flat Screens in Bond Paper Mill

"Apmew centrifugal pulp cleaners & screens have now been installed and are working very satisfactorily." Centrifugally cleaner, more salable paper is being produced for big profits.

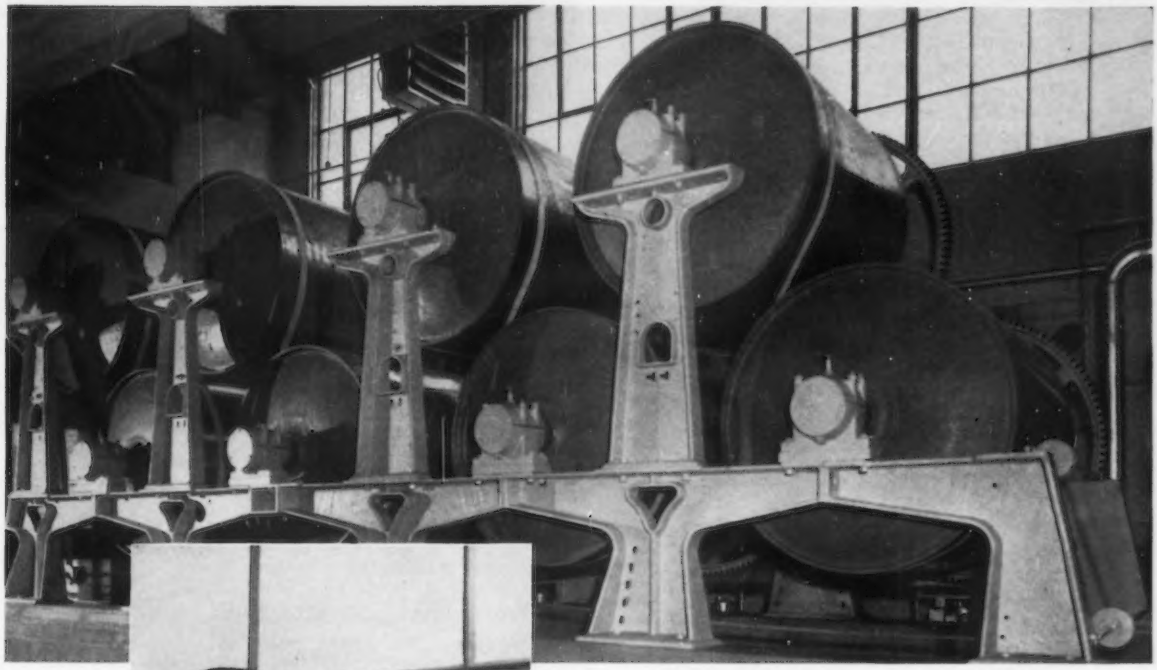
Occupy 10 feet by 30 feet—SAVE 81 feet by 96 feet



APMEW, Inc., P. O. Box 1, Glens Falls, N. Y.

The air guide, (model 560-A) designed for paper machines between arrest and retain large or small pieces of trap iron, guarding filters hook at the top of the magnetic ele-

with DAREX LATEX C



Drying drums in Dewey and Almy's paper technology laboratories.

. . . your gain is our gloss!

You certainly do achieve a super-smooth finish and a higher gloss with DAREX LATEX C. But there's much more to this story.

LATEX C lets you formulate *safely* with high solids content. It gives you faster drying at less heat. It has been thoroughly tested and approved in a variety of coating formulations, including casein, starch and soya protein. And it can be used with any coater, high or low shear—roll, air knife, trailing blade.

Today Dewey and Almy is in a position to supply your needs faster than ever before, both from our Cambridge plant and from extensive new facilities at Owensboro, Kentucky.

Talk it over with your technical people. They have the facts at their finger tips. Or write to the address below, attention Organic Chemicals Sales, and ask for the DAREX LATEX C brochure.

W. R. GRACE & CO.
DEWEY AND ALMY CHEMICAL DIVISION
Cambridge 40, Mass.

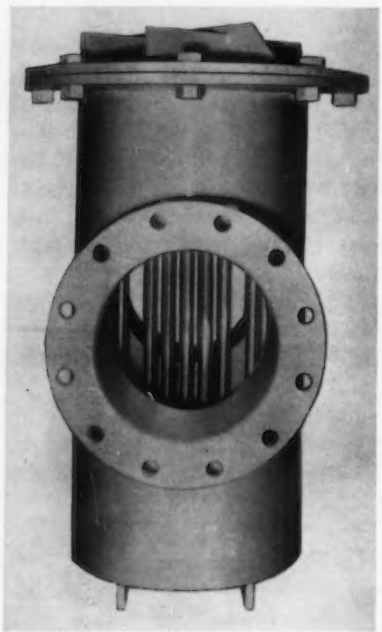
The air guide, (model 560-A) designed for paper machines between 120 inches and 200 inches wide, is suitable for machine speeds up to 3,000 feet per minute. It will fit in any space where a mechanical guide is installed. In most instances, the air guide can be mounted using the existing guide roll, bearings and backstand, says Appleton's engineers.

There is no "swing roll" effect or guide roll oscillation because the guide moves laterally in either direction by air pressure and is held securely in place. In the event of air supply failure, the guide roll is held stationary and the wire or felt can be guided manually. There are no springs to pull the guide roll with possible loss of wire or felt.

Standardization of guides on a paper machine is possible because the same model air guide is used for wires, wet felts and dryer felts. Appleton Machine also manufactures the smaller air guide (model 460-A) for paper machines under 120 inches in width and mechanical guides.

Pipe Line Bowl Traps Are Magnetic

Eriez Manufacturing Co. has made available a line of permanent magnetic Bowl Traps in seven standard sizes, 6-inches through 18-inches in two-inch increments, and able to withstand pressures to 75 p.s.i. and temperatures to 650°F. Designed for installation in liquid or slurry processing lines, the non-electric magnetic tubes forming the core of the trap arrest and retain large or small pieces of trap iron, guarding filters, pumps, refiners and other equipment.



As normally installed, upright in a horizontal pipe line, the trap causes the flow of material to pass through and around the stainless steel tubes in such a manner that no part of the flow can escape the action of the magnetic fields. Any heavy non-magnetic bodies arrested by the trap fall to the sump at the bottom of the unit, which is provided with a drain plug. Periodic removal of tramp iron from the tubes is facilitated by a lifting hook at the top of the magnetic element; the tubes are simply wiped downward from the top to a small dead area at the base of each tube, where deposits disengage.

The standard Bowl Trap, has a body of welded pipe and reinforced plate construction; however, the unit can be supplied either with a epoxy resin coating, or in all-stainless steel construction. A plate magnet can be substituted for the magnetic tubes. More complete data may be obtained by addressing Eriez Mfg. Co., Erie 6, Pa.

Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	Oct. 10	Oct. 17	Oct. 24	Oct. 31	Nov. 7
1959	98.4r	97.0r	96.3r	97.7r	92.4
	Oct. 11	Oct. 18	Oct. 25	Nov. 1	Nov. 8
1958	91.6	92.1	92.3	91.7	92.3

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1959	87.8	90.5	93.2	94.4	95.3	95.6‡	84.6‡	96.0‡	94.7‡	96.8‡	—	—	—
1958	86.9	89.5	89.5	88.4	87.2	87.2	75.3	89.6	86.5	91.6	90.4	83.1	87.1

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1952	1953	1954	1955	1956	1957	1958	1959
Year to Date	90.6	93.7	92.0	95.2	100.1	91.2	86.6	92.1
Year Average	88.6	92.3	91.6	94.0	97.9	90.9	87.1	—

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	Oct. 10	Oct. 17	Oct. 24	Oct. 31	Nov. 7
1959	98	98	94	96	94
	Oct. 11	Oct. 18	Oct. 25	Nov. 1	Nov. 8
1958	95	95	94	95	93

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1959	89	94	95	94	96	96	83	97	92	97	—	—	—
1958	84	86	87	84	85	86	76	93	90	95	93	77	86

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	THIS WEEK ENDING Nov. 7, 1959	LAST WEEK ENDING Oct. 31, 1959	CUMULATIVE TO DATE Jan. 1 to Nov. 7, 1959, incl.
% Activity	94%	96%	93%
TOTAL	319,477	332,303	13,679,044
Liner	111,626	120,562	4,763,461
Corrugating Material	52,234	51,642	2,086,580
Chip & Filler Board	4,259	4,882	219,997
Total Containerboard	168,119	177,086	7,070,038
Folding	57,326	57,549	2,446,560
Set-Up	12,600	14,411	524,944
Special Food Board	28,153	28,478	1,230,603
Other	53,279	54,779	2,406,899
Total Boxboard	151,358	155,217	6,609,006
Total Orders			
Received	361,161	328,047	
Unfilled End of Week	523,320	483,268	

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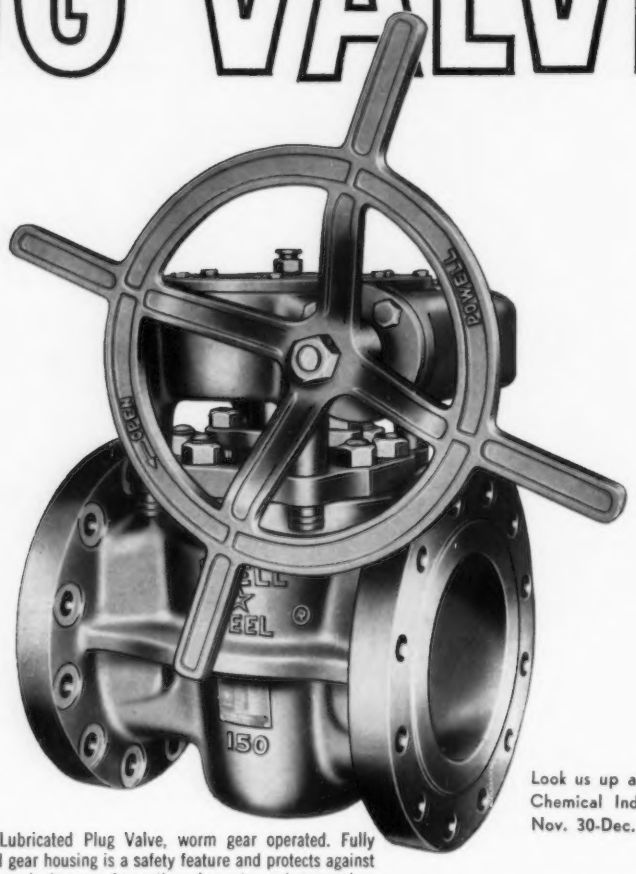
Clairton, Penna.

POWELL

LUBRICATED PLUG VALVES



Powell Lubricated Plug Valve, worm gear operated. Fully enclosed gear housing is a safety feature and protects against injuries and damage from the elements and tampering.

Look us up at the 27th Exposition of Chemical Industries, New York City Nov. 30-Dec. 4. Booth 133.

Like all Powell Valves, Powell Lubricated Plug Valves are superior in their field . . . and have many advantages over conventional types of Valves:

- Simple design: Only three basic parts—Body, Bonnet, Plug.
- Quick, complete shut-off.
- Tapered plug assures positive seating.
- Machined surfaces of plug and body are not exposed in open position.
- Cavity-free straight passage assures streamlined flow.

Powell Lubricated Plug Valves are available in sizes ½" through 16", depending on the type required—Semi-steel 175 and 200 pounds WOG; Carbon Steel ASA 150 and 300 pounds.

Powell can also furnish Lubricated Plug Valves in other alloys on special order.

For all your valve needs, consult your local Powell Distributor—or write directly to us. Send for our new Lubricated Plug Valve Catalog, Number PV-5.

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SUPERSIZE
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RESINS
HALLMARK®
Tapioca
SUPERCOTE
(Coating Dextrine)
CALENDER SIZE G
(Calender Colloid)
HALLMARK®
Potato Starch
(Powdered & Chlorinated)
PRE-GEL STARCHES
ENZO®
(Corn for Enzyme Conversion)
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PRODUCTIVE LANDMARKS

of Economic Growth
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Prices of Fibers

MARKET WOOD PULP

FOURTH QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$ 82.50/ 90.00	$ 82.50/ 90.00	§$90.00/ —	§$80.00/ —	§$90.00/ —
Bleached Gw'd	$ 97.50/100.00	$ 97.50/100.00			
Kraft, Blchd.	157.00/ —	160.00/162.50	$157.00/162.50*		$157.50/ —
Kraft, Blchd. Hdwd.	152.00/ —		$137.00/ —		
Kraft, Semi-bleached.	140.00/ —	140.00/ —			
Kraft, Unbl.	117.50/125.00	125.00/130.00	†125.00/130.00	125.00/ —	
Sulphite, Blchd.	155.00/ —	155.00/ —	*155.00/ —	*155.00/ —	155.00/ —
Sulphite, Bl. Hdwd.	150.00/ —				
Sulphite, Unbichd	135.00/ —	135.00/ —	†135.00/ —	*135.00/ —	
Sulphite, Unb'l. Gl'sn		140.00/ —	†134.00/ —		
Soda, Blchd.	147.00/150.00	150.00/ —			

§ On Dock Atlantic Ports. * Freight allowed. † Varying Freight Allowances.

COTTON LINTERS

F.O.B. OIL MILLS
WEEK ENDED NOVEMBER 10

	Atlanta	Memphis	Dallas	Los Angeles
Grade 1	n.a.	n.a.	n.a.	n.a.
2	$8.00/7.50	n.a.	n.a.	$7.75/7.50
3	7.50/6.00	$8.00/7.00	$6.75/6.50	7.25/7.00
4	6.00/5.25	6.25/5.75	6.25/5.25	6.75/6.25
5	5.25/4.75	5.00/4.75	4.75/4.50	6.00/5.60
6	4.75/3.50	4.50/4.25	4.00/3.25	5.00/3.75
7	3.50/2.50	3.50/2.75	3.00/2.75	3.00/2.75

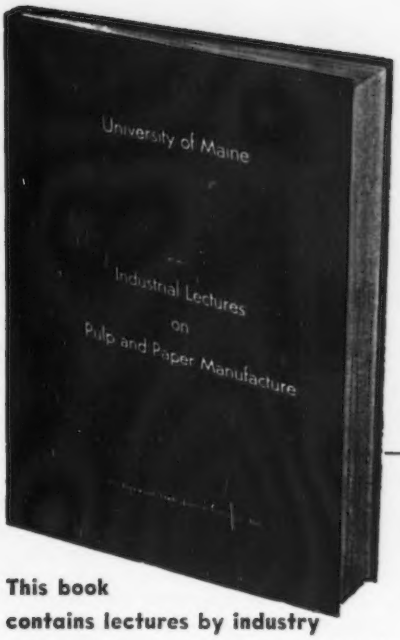
WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

	New York	Boston	Chicago	Los Angeles
	Nov. 16	Nov. 16	Nov.	Nov.
No. 1 Mixed Paper	$ 10.00/ 12.00	12.00/ 14.00	9.00/ —	13.00/ 14.00
No. 1 News	14.00/ 15.00	14.00/ 15.00	16.00/ —	16.00/ —
Overissue News (Lg. size)	13.00/ 15.00	13.00/ 15.00	21.00/ —	19.00/ 20.00
Mill Wrappers	19.00/ 22.00	13.00/ 15.00	14.00/ —	15.00/ —
Old Corrugated Containers	24.00/ 25.00	23.50/ 24.00	21.00/ —	23.00/ —
Super Resorted Kraft Paper	35.00/ 40.00	— / —	30.00/ —	55.00/ —
New Double Kr. Ld. Corr. Cuts	35.00/ 37.50	37.50/ —	35.00/ —	35.00/ —
(Semi-chem. medium)	47.50/ —	47.50/ —	45.00/ —	36.00/ —
New 100% Kraft Corr. Cuts	40.00/ 42.50	— / —	57.50/ —	— / —
New Br. Kraft, Env. Cuts	70.00/ 75.00	70.00/ 75.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Prntd.	55.00/ 60.00	55.00/ 60.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Unprintd	60.00/ 65.00	65.00/ 75.00	60.00/ —	60.00/ —
No. 1 Groundwood Shvs.	25.00/ 30.00	25.00/ 30.00	24.00/ —	35.00/ —
White Newsblanks	65.00/ 70.00	53.50/ 60.00	45.00/ —	60.00/ —
No. 1 Soft White Shvs.	60.00/ 65.00	60.00/ 65.00	60.00/ —	70.00/ —
Super Soft White Shvs.	65.00/ 75.00	75.00/ 85.00	70.00/ —	— / —
Hd. White Shvs.	85.00/ 90.00	90.00/100.00	85.00/ —	95.00/ —
Hd. White Env. Cuts	100.00/105.00	105.00/110.00	90.00/ —	113.00/ —
Col. Tab. Cards	55.00/ 57.50	55.00/ 57.50	52.50/ —	42.50/ 45.00
Manila Tab. Cards	77.50/ 80.00	77.50/ 80.00	75.00/ —	70.00/ —
No. 1 Col. Ledger	40.00/ 45.00	37.50/ 42.50	47.50/ —	35.00/ —
White Ledger	60.00/ 62.50	60.00/ 65.00	57.50/ —	55.00/ —
Mixed Book & Mag.†	22.00/ 25.00	— / —	17.00/ —	— / —
No. 1 Books‡	23.00/ 25.50	17.00/ 19.00	35.00/ —	17.50/ 19.50

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.



Industry specialists authored this practical textbook on pulp & paper production...

University of Maine professors edited it...

Now the publishers offer it to pulp and paper mill men at reduced price.

The *University of Maine Lectures*, Series II, Contains 373 pages of up-to-date material covering a broad field in both pulp and paper making and including many fine illustrations and diagrams. The book was edited by Professors Lyle C. Jenness and John Lewis of the University of Maine.

The *Lectures* can be used as a textbook to train foremen and to orient engineers entering the field. Executives, superintendents, engineers and chemists will also find this book invaluable. Every mill should have one or more copies for quick reference to provide figures, process details, and information indicated by subject file at left.

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PULP SECTION

The Structure of Wood
Chemistry of Cellulose and Wood
The Wood Supply
Preparation of Wood
The Wood Room
Manufacture of Groundwood
Mechanical Pulping
Grinders and Grinding
Cooking Acid Preparation in the Sulfite Process
Sulfite Pulping Sulfur Dioxide Preparation
Sulfite Acid Preparation
Sulphite Pulp Acid Making Systems
Cooking Sulphite Pulp
Sulfite Pulping
Neutral Sulfite Semi-Chemical Pulping
Soda Pulping
Kraft Pulping
Sulfate Recovery Units
Chemical Recovery Unit
Peroxides
Peroxide Bleaching
Chlorine Bleaching
Corrosion-Resistant Metals for Pulp and Paper Industry
Application of Chemical Engineering To Pulp and Paper Technology

PAPER SECTION

Waste Paper, Its Collection and Usage
Facts Concerning the Waste Paper Industry and its Relationship to Pulp in the Paper and Paperboard Industries
Beating and Refining
Stock Preparation
Fillers and Loading
Paper Fillers
Starch Sizing of Paper
The Dyeing of Paper
Coarse Papers Bag and Board
Coarse Papers
Sanitary Tissues
Instrument Applications in Pulp and Paper Mills
Fourdrinier Paper Machines—Wet End
Paper Machine—Wet End
Fourdrinier Paper Machines—Dry End
Paper Machine Drive Fundamentals
Drying Theory and Practice
Paper Coating
Paper Testing and Specifications
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☐ Check enclosed

PJT NEWS OF SUPPLIERS

Morden Machines Co., Portland, Ore., has completed a new addition that has enlarged office spaces by 30 per cent.

The added offices will be used primarily for expanding the administrative, engineering and sales departments. Research and laboratory facilities were enlarged also to further the company's testing and development program. A new sprinkling system was installed throughout the building for the protection of a 28-year accumulation of records and drawings against fire.

The Morden Machines Co. manufactures and internationally sells stock preparation machinery for the pulp and paper industry.

Manchester Machine Co. has named Thomas A. Jones president, according to William H. Walters, president of the Diamond National Corp., the parent corporation. James Boyd, who has been president of Manchester, has retired but will continue to serve as a consultant to the company, makers of paper machinery.

Mr. Jones, who was born in Chicago, graduated from Yale University and went to work for Procter & Gamble as an industrial engineer. He then joined W. A. Jones Foundry and Machine Co. where he moved from apprentice machinist up to various executive positions including sales manager, executive vice president and president. In 1957 Mr. Jones was appointed vice president and general manager of Manchester and was transferred to the Molded-Packaging Division of Diamond National in 1959.

Manchester Machine has just completed a $1.5 million building in Monroe, Ohio, which more than doubles the capacity it had in its Middletown, Ohio, plant. The company now employes 150 people.

Dow Chemical Co. has appointed Macauley Whiting general manager of the Midland Division. He succeeds the late William H. Schuette, vice president of Dow and general manager of its Midland Division, who died unexpectedly November 8.

Mr. Whiting has been manager of service departments for the Midland Division since 1956, and as such has been responsible for engineering and construction, maintenance and plant services, utilities, purchasing, standards, traffic, and miscellaneous services. He began with the company as a student trainee in 1948, and then spent a year as an engineer in the mechanical development department, and two years with the production economics department. In 1952 he became a results engineer in the power department, and was named manager of that department a year later.

Elwell-Parker Electric Co. has named James W. McEwan assistant sales manager. For the past 13 years, Mr. McEwan has sold Elwell-Parker trucks in the east for one of its distributors, Parkell Engineering Co. of New York City. Prior to that, he was associated with the Continental Can Co. in its industrial relations department.

In his new post with Elwell-Parker, Mr. McEwan will serve as chief liaison between the company and its more than 30 representatives throughout the U. S. and Canada.

Wyandotte Chemicals Corp. has named Lewis M. Ludlow manager of the Pacific district, Michigan Alkali Div. He is replacing J. M. Norcott who has resigned. The appointment is effective November 1.

Mr. Ludlow joined organic sales department in 1950. In 1954, he was assigned to the Pacific district as a senior resident sales representative. Returning in late 1957, he worked in the company's market development department on polyurethane foams. Since last January Mr. Ludlow has been a member of the new product department where he has been responsible for promoting Wyandotte products to the flexible urethane foam field.

J. W. McEwan

L. M. Ludlow

P. J. Fitzpatrick

W. F. Furcht

American Cyanamid Co.'s paper chemicals department in the South Atlantic area has announced the appointment of Peter J. Fitzpatrick as technical representative.

Mr. Fitzpatrick, who has been with Cyanamid since 1953, has served in technical and sales posts with the paper chemicals department. Prior to his new appointment he was a technical representative to the paper industry in the New England states.

A native of New Orleans and graduate of Louisiana State Uni-

versity, Mr. Fitzpatrick served as an Army major in the European theater of operations during World War II.

Appointment of William F. Furcht as a technical representative of American Cyanamids paper chemicals department in New England has also been announced.

Prior to his new appointment, Mr. Furcht served in the company's research laboratories at Stamford, Conn., where he was engaged in research and development work in the paper chemicals field.

A graduate of the University of New Mexico and New Mexico Highland University, Mr. Furcht holds a B. S. in biology and an M. A. in chemistry.

Clark Leasing Corp., a subsidiary of Clark Equipment Co., and Georgia-Pacific Corp. have announced negotiation of a contract under which Clark will lease to Georgia-Pacific mobile materials handling equipment used in the company's 22 plants and 55 warehouses.

Equipment covered includes forklift trucks, straddle carriers, towing tractors and powered hand trucks.

Georgia-Pacific is one of the world's largest producers of forest products, including plywood and overlaid plywood, hardboard, Redwood products, lumber, chemicals, pulp, paper and containerboard.

A Georgia-Pacific spokesman said the company will use the Clark machines to improve operating efficiencies by reducing costs and simplifying maintenance and upkeep.

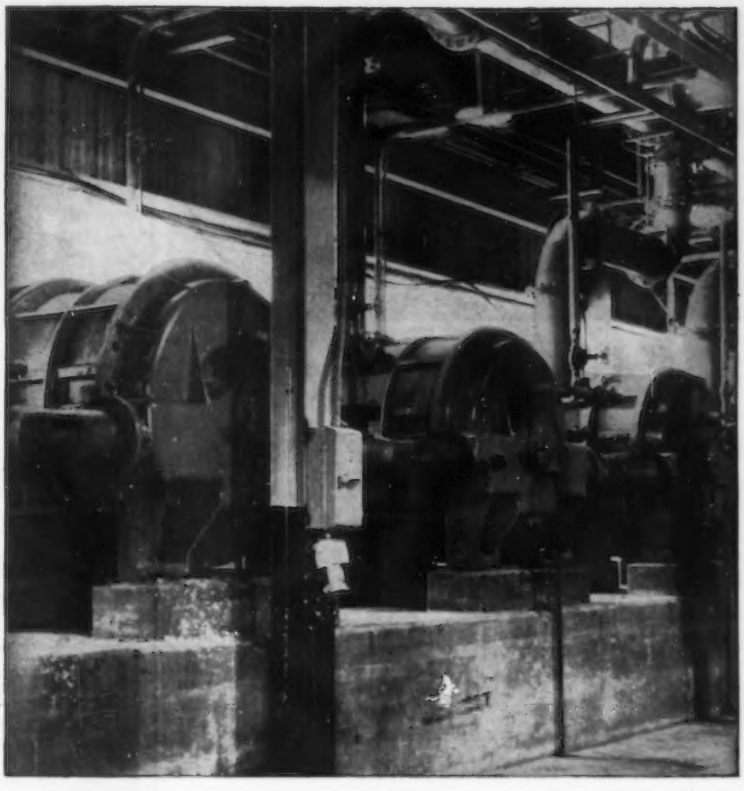
OBITUARIES

George J. Ferguson, 81, former owner-operator of Crescent Twine & Paper Co., Syracuse, N. Y., died October 30 of a heart attack. He formed the company in 1934 and also was associated with the Syracuse Paper & Twine Co.

William J. Roach, 59, president and director of Atterbury Bros., Inc., New York, N. Y., died November 7 after a brief illness.

Mr. Roach joined Atterbury Bros. Inc., in 1916 as an office boy and became president in 1950. He also served as a director of the New York Ass'n. of Dealers in Paper Mills' Supplies and was a past director of the National Ass'n. of Waste Material Dealers.

What, actually, do Vacuum Pumps on paper machines handle?



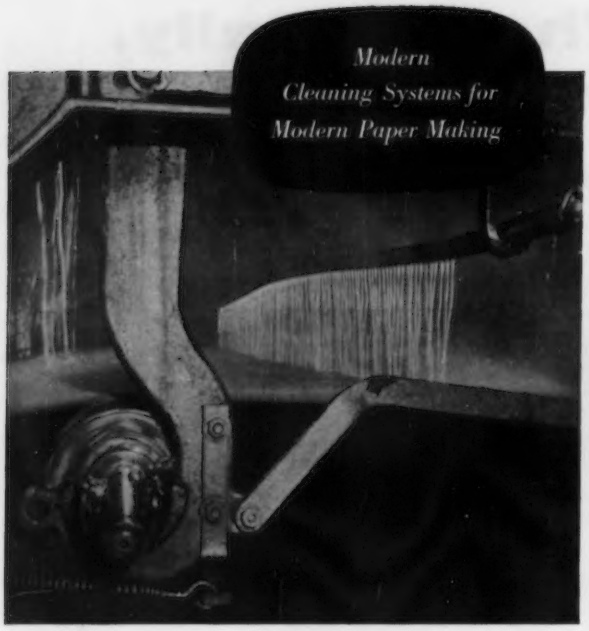
Paper mill engineers know that it is actually a mixture of air and water vapor, but the custom of rating vacuum pumps in terms of air capacity alone causes this important fact to be frequently overlooked.

The presence of this water vapor causes a considerable reduction of the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump the bulk of this water vapor is effectively condensed, due to the Nash operating principle. The air handling capacity of the Nash is therefore not reduced.

That is one of the reasons why Nash Vacuum Pumps are standard in over a thousand leading Paper Mills.

NASH ENGINEERING COMPANY

443 WILSON ROAD, SO. NORWALK, CONN.



Mill saves $12,000 a year
with Oakite felt-cleaning method

A $900 felt normally lasted only two weeks at one sulphite mill. Tightly woven, it clogged with scale, size and filler fibers, even though cleaning was frequent. Then, the Oakite man recommended installing a permanent washing system and using Oakite Compound No. 85.

Shower pipes were installed over the felt. At cleaning time, the Oakite solution is played on the felt . . . given 25 minutes to work in and loosen accumulated soils . . . rinsed off with clear water. Felt is run through rolls to squeeze out excess water, allowed to dry. In less than two hours, it's soft, fluffy and *thoroughly* clean . . . so clean that a felt now lasts not two, but *five weeks* . . . for an annual savings of over $12,000.

Discover how *you* can save with Oakite cleaning systems. Talk to your Oakite man. Or send for Bulletin B-394. Oakite Products, Inc., 48A Rector Street, New York 6, N. Y.

OAKITE *Modern Cleaning Systems Keep Downtime DOWN*

In our 50th year. Export Division Cable Address: Oakite

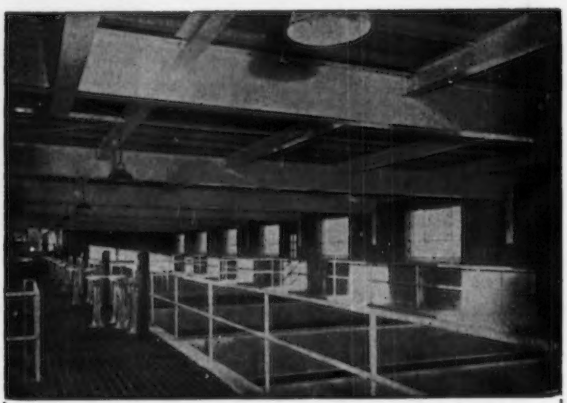
Technical Service Representatives in Principal Cities of U. S. and Canada

Sandy Hill
HORIZONTAL SIZE PRESS

- Clean
- Sturdy
- Adaptable to all applications of surface additives

Write for additional information

THE SANDY HILL IRON AND BRASS WORKS
HUDSON FALLS, N. Y.



Concrete Gravity Air-Water-Wash type water Filtration Plant producing, at low cost, water with turbidity 0, color under 5 and iron 0.05 p.p.m. Fe.

OTHER PRODUCTS

Demineralizing Plants
Water Softening Plants
Pressure Filter Plants

and

All other types of water treating systems, including strainer valves, air wash systems, filter sand and anthracite beds and all filter repair and replacement parts. Over 50 years experience building new and modernizing old water treatment plants.

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CLAYTON 4, NEW JERSEY

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Help Wanted

PAPER MEN

$5,000 to $50,000

SALES • PRODUCTION • TECHNICAL

Finding and landing THE ONE BEST JOB requires sound analysis, careful planning, proper contacts and skillful negotiation.

Paper men ourselves, and the only recognized professional specialists in the world in our particular field, we assist responsible paper men to accelerate their careers by uncovering and developing THE SPECIFIC SITUATION that most exactly fits the needs of each individual we serve.

If you seek to better yourself, and your performance to date entitles you to our endorsement, we can and will help you. Contact us in absolute confidence for information regarding procedure.

GEO. M. SUNDAY & ASSO.

PERSONNEL CONSULTANTS TO THE PULP, PAPER & ALLIED INDUSTRIES

6 East Monroe, Chicago ANdover 3-1970

Help Wanted

BETTER POSITIONS

$6000 to $35,000. Want a substantial salary increase, more opportunity or different location? This national 48 year old service connects you with best openings. You pay us only nominal fee for negotiations; This we refund when employer pays placement fee. Present position protected. In complete confidence, write for particulars. R. W. Bixby, Inc., 563 Brisbane Bldg., Buffalo 3, N. Y. N-23

PRODUCTION OPERATING ENGINEER

Expanding mill has opportunity for experienced production engineer. Seven Fourdrinier Machines operating and two 246 inch machines being installed. Prefer engineering or paper technology graduates with 3-10 years' experience. Starting salary commensurate with experience. Future salary determined by ability and performance. Replies treated confidentially. Send resume to:

Employee Relations Manager
Fine Papers Division
West Virginia Pulp and Paper Co.
Luke, Maryland

N-23

WANTED

For 500 ton Kraft linerboard mill being built at Counce, Tennessee. Mill is located on Tennessee River just below Pickwick Dam, an area of pleasant living conditions with excellent recreational facilities. Mill is scheduled for operation January 1, 1961; however, we wish to fill the following positions immediately so that the men chosen can be in on the planning and installation stages.

POWER SUPERVISOR—Must be able to plan and organize Power Department; help select and train men; plan and direct efficient and safe operation of power and recovery boiler and related equipment. Will supervise combination gas and bark fired boiler and large recovery unit. Will report to Pulp Mill Superintendent. This position offers excellent opportunity for a competent power man to increase his knowledge of pulp mill operations, or to grow in the power plant field, as the mill expands.

INSTRUMENT SUPERVISOR—Must be able to plan and organize Instrument Department; help select and train men; supervise, plan and direct installation and maintenance activities of the department. Knowledge of current Kraft mill instrumentation is essential. Will report to Plant Engineer. This is an opportunity for a thoroughly experienced man to help select and install instrumentation and man a modern new mill.

Only well qualified men with Southern experience will be considered.

TENNESSEE RIVER PULP & PAPER COMPANY
P. O. BOX 33
COUNCE, TENN.

N-23

GIBBS-BROWER CO., INC.

10 Depot Plaza, White Plains, New York
Telephone—Rockwell 1-1130

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5270 E. Wash. Blvd. Los Angeles 22, Cal.
903 Danforth Burlington, Ontario
400 Washington Building Madison 3, Wisconsin

PRINTING PRESSES

1—24" 5-color Kidder Celloprinter
1—24" 3-color Potdevin Flexo Press
1—51" 3-color Flexo Press
1—50" 1-color Tailprinter
1—48" 4-color Cottrell Heinrich Press. 3—Flexo, 1—Gravure
1—41" 4-color Wolverine Hydro-Printer
1—32" 4-color Schmutz Bag Press
1—31½" 4-color W. & H. Roll to Roll Flexo Press
1—18" 2-color Potdevin Oil Ink Roll to Roll Press
2—18" 3 & 4 color Martini Flexo
1—9" x 12" New Era 2-1 with Togglehead

POWER PAPER CUTTERS

Seybolds: Dayton: 35", 56" & 64"; 20th Century: 64", 54" & 38"; Holyoke: 55"; 12Z: 85"; 10Z: 65", 50", 44"; 7Y: 34"; 3Y: 32"; Oswegos: 36"; Dexter: 50", 44" & 32"; C & P: 44"; National: 44".
1—84" Seybold Dayton

CAMACHINES

108" & 160" Type 18.
1—82" 10-10
1—72" 10-10A
1—72" 10-11
1—72" Shear Cut, Type 10-04-3, 40" rewind
1—62" 40-1-AF
1—62" Type 42, for small rolls
1—52", & 1—42" Model 24-7.
1—42", 50" & 62" Type 6
1—55" & 1—65" Type 10

OTHER SLITTERS

1—106" Langston (60" Diameter Rewind)
1—82" Langston Type B
1—60" S & R (Similar Kidder Model C.W.)
1—60" Langston Type A
1—60" Inman With Reeves Drive
1—52" Meisel (Shear-Cut)
1—50" & 1—60" Knowlton Board Slitter (Heavy Duty)
1—50" Kidder Mod. SLN Shear-cut
1—40" Langston "Type A" (Shear-Cut)
1—36" Kidder SLN (Shear Cut) Fully equipped for converting adding machine & teletype rolls.
2—24", 1—30", 1—36" & 1—40" Kidder S.L. Shear cut
1—62" Johnstone

MISCELLANEOUS MACHINES

1—Potdevin #83 505 Grocery Bag Machine
1—55" Beck CCSH A-5 Angle Sheeter
1—45" CCSH-5 Beck Jogger Table
1—45" CSH Beck Sheeter, Jogger Delivery
1—36" Model CSHD Beck
1—36"-45" and 1—55" Globe sheeters
1—112" Model 29 Heavy Duty Roller Bearing Single Hamblet Sheeter, with layboy and backstands.
Hamblet Sheeters—32", 44", 48", 64", 104"
1—Beasley French Bag Machine.
1—Potdevin Model 110-L Cello Bag Machine
2—Potdevin (Model 111-S) F & S Cello Bag Machine, Electric Eye
2—Matador Model #26 & #100 Bag Machines
1—Model-C Cellophane Roto Bag Machine
1—#2CS Weber Cello Pouch Machine
1—Weber Model "CN" Cellophane Satchel Bottom Bag Machine
1—Satchel Bottom Flour Bag Machine Tuber & Bottomer
1—Poly Garment Bag Machine
2—Simplex Model #1 Cello Fold-over Bag Machines
2—Smith & Winchester Tubers
1—Mercury Hot Paper Cut Machine
3—Seybold: 4—Post Die Presses 2—38" x 24", 48" x 31" & 59" x 32"
3—Sheridans: 66" x 44", 60" x 30" & 44" x 22"
1—48" x 40" Ford-Smith
1—V-Shape 6 oz. Paper Cup Machine
1—27" x 44" Dietz Single-Fold Towel Interfolder
1—New Hudson Sharp No. 10-T Rotary Towel Interfolder
1—Hudson-Sharp C-Fold Towel Machine
1—54" Moore & White Waxer (Complete)

N-23

Help Wanted Advertisements continued on page 58

PROCESS ENGINEER

Consolidated Water Power & Paper Company is considering applications for the position of Process Engineer.

Our Process Engineers are part of the mill technical staff and operate as an integral part of production on problems involving quality control, wastes and efficiencies. These Engineers are assigned to specific areas in the mill such as Groundwood Pulping, Stock Blending, Papermaking and Coating, and are expected to provide guidance and technical advice to the operating personnel.

This Process Engineer should have an educational background in Paper Technology, Chemistry, or Chemical Engineering.

Two or three years experience in Process Engineering or mill technical service work in Groundwood Pulping, Chemical Pulping, and/or wet-end machine trials is necessary.

This position is located in Central Wisconsin.

Please send resume and application for interview to L. J. Barrette, Director of Personnel & Labor Relations, Consolidated Water Power & Paper Company, Wisconsin Rapids, Wisconsin.

D-7

PRODUCTION MANAGER
TECHNICAL DIRECTOR
and other senior staff

required by

a well designed and located, first class, versatile one machine

FINE PAPER MILL

now under construction at New Westminster,
British Columbia

If you would like to be a part of this operation right from the start, and grow with it, you are invited to write now in strictest confidence and fullest detail to the:

Fine Paper Division

POWELL RIVER COMPANY LIMITED

Standard Building, Vancouver 13, British Columbia

N-30

Factory Representatives Wanted

Midwest concern manufacturing KNIFE GATE BONNETLESS STOCK VALVES for the paper-pulp industry seeks experienced men and/or sales organizations to handle valves and allied lines. Send experience resume or company history; state territory serviced and lines carried. Excellent opportunity for right parties. Box 59-319 care Paper Trade Journal. N-23

Chemist or Chemical Engineer

$7000-$8000

For customer service & laboratory development work on base products for paper mfg & converting applications. National chemical co., central N. J. laboratories. 30% travel. Write education & experience in detail. Box #59-326 care Paper Trade Journal. N-23

LOOK through the columns of the CLEARING HOUSE

BARGAINS
IMMEDIATE DELIVERY

1—86" Farrel 8-Roll Calender Stack. A. F. Bearings. Full set of Doctors.
1—8" Pusey & Jones 7-Roll Calender Stack.
1—30" Dia. x 130" Face Farrel Roll Grinder., Complete.
1—5' x 86" Pusey & Jones Yankee Dryer.
1—92" Langston Winder equipped with both score and shear cut slitter devices.
1—86" Warren Winder Complete. Recently rebuilt with new drums and new A. F. Bearings and Housings.
1—110" Pusey & Jones 2-Drum Winder. A.F. Bearings.
1—84" Kamyr Machine, 75 Ton per day.
10—48" x 150" Pusey & Jones Dryers.
7—36" & 72" Pusey & Jones Dryers.
1—E. D. Jones Majestic Jordon No. A-482. S.S. Fillings.
1—74" Seybold Trimmer & Cutter Z-12.
1—45" Seybold Trimmer & Cutter with 5 H.P. 220/440 Volt Motor. Rebuilt.
1—42" Dia. & 110" Face Pope Reel.
1—25" Dia. x 156" Perforated Face Sandusky Suction Couch, Complete.
1—22" Dia. x 138" Perforated Face Sandusky Suction Couch, Complete.
1—22" x 111" Vertical Size Press with Microrock and Rubber Rolls. A. F. Bearings with frame work. Pneumatically loaded.
1—24" x 102" Extractor Rolls. 20" Dia. Rubber Top Roll mounted with A. F. Bearings and Frame work. Spare Rolls.
1—22" x 96" First Press with Microrock Roll and Rubber Roll.
1—22" x 110" Press with Microrock Roll and Rubber Roll.
1—10-Knife Carthage Chipper with A. F. Bearings.
1—A.P.P. Rotary Centrifugal Pulp Screen, 40" Dia. x 42" Face, Serial #1274227.
1—#3A Bird Screen. S.S. Plates.
1—Hudson Sharpe Toilet Tissue Converting Machine. Serial #2123.
2—Packer 12-Plate Flat Screens. S.S. Bodies #.22 S.S. Plates. Less than 5 Years Old.
1—36" x 96" Saveall, Rubber Couch, S.S. Vat, A.F. Bearings.
1—Hummer Vibrating Screen.
1—Seybold Knife Grinder, Size G, 84" Table, Serial #4X802.
1—Sandy Hill Sulphur Burner, Complete.
1—54" Dia. x 48" Face Valley Iron Tub Beater.
1—53" Dia. x 66" Face Dilts 2000-lb. Iron Tub Beater with S.S. Hood.
16—Beater Rolls and Stands, Various Sizes.
5—Triplex and Duplex Pumps, Various Sizes.
1—DeZurick Consistency Regulator. Complete. One year old, never used.
1—8' x 10' Oliver Continuous Filter, Steel Tub.
1—100 H.P. Terry Turbine, Type G, 3615 RPM, 250 lbs. Steam Pressure. Back Pressure 35 lbs. Fully automatic with Terry Speed Reducer.
1—No. 2 Jones Pulper. A.F. Bearings. Spare Worm.
1—250 H.P. Ingersoll-Rand Diesel Engine Generator Set—G.E. Generator, 150 KW, 480 Volts, 720 RPM.
3—75 KVA G.E. Spirakore Transformers, Type HS, Class OA, 2400/4160 Y Primary to 120/240 Secondary.
1—60 H.P. G.E. Gear Motor, T.E.F.C. 440 Volts, 1730 Max./427 Min. RPM, 4.15 to 1 Ratio.
1—15 H.P. West. Gear Motor, T.E.F.C. 220 Volts, 87 RPM.
1—7½ H.P. West. Gear Motor, T.E.F.C. 550 Volts, 1165 RPM to 29 RPM.
1—7½ H.P. G.E. Gear Motor, T.E.F.C. 220/440 Volts, 1738 RPM, 9.2 to 1 Ratio.
1—Horton Clutch, AF, Bearings.

1000 Electric Motors from ¼ H.P. to 600 H.P. in Stock

The above is but a small part of the inventory we carry. We can furnish you with almost anything in the line of paper mill, electrical and machine shop equipment.

Write—Wire—Phone For Your Needs

RUDERMAN MACHINERY EXCHANGE
GOUVERNEUR, NEW YORK
Telephone 333-324

TF

Help Wanted Advertisements continued on page 60

FOR SALE

BARKING DRUM
1—12 ft. diameter x 45 ft. long

BEATERS
2—1500 lb. rag beaters, Valley Iron, bandless rolls, 54" x 48", cast iron tubs

CALENDER STACKS
1—3 roll 84" calender stack.
1—4 roll 72" Calender Stack. (Extra heavy duty).
1—5 roll 82" face.
1—5 roll 86".
1—7 roll, 84" face.

CHIPPERS
1—96" Murray 4 knife Chipper—anti-friction bearings
1—84" 10 knife Carthage Chipper. Anti friction bearings, with motor.
24—Chipper Knives 15⅞ x 8¼, 2 slot.

COATER
1—42" Extruder Coater, new

CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
1—Williams Hammermill
1—Jeffrey Shredder

CYLINDER MOLDS
2—36" diameter x 100" face, anti friction bearings
5—36" diameter x 75" face, with couch rolls
3—42" diameter x 106" face
1—30" diameter x 72" face.
1—36" diameter x 82" face
3—36" diameter x 90" face, 18" diameter couch rolls.
2—60" dia. x 170" face

DIGESTERS
1—10' high x 5' dia. High pressure vertical digester.

DISINTEGRATOR
1—Shartle 8" disintegrator (new) with 125 horsepower induction motor. (totally enclosed)

DRIVES
1—#6 Reeves vertical—anti friction bearings, totally enclosed.
1—Jones 21 H.P., ratio 10 to 1 (enclosed angle drive)
1—#4 Reeves Drive
2—Waterbury Hydraulic Variable speed line shaft drives (from 40 to 100 H.P.)
1—5 H.P. Reliance Drive, complete with starting equipment, like new.
1—Agitator drive
1—400 h.p.—Westinghouse Drive

DRYERS
2—48" x 60" face with frames, gears and bearings
1—48" x 96" face
20—48" diameter x 48" face with bearings.
4—24" diameter x 80" face, Lukens High Pressure Dryers, anti friction bearings.
1—28" diameter x 84" face
2—28" diameter x 40" face with bearings
4—30" diameter x 48" face with bearings.
2—48" dia. x 52" face with frames, gears, bearings
1—36" diameter x 44" face
4—36" diameter x 76" face
5—36" diameter x 84" face and gears
1—36" diameter x 54" face (steel)
6—48" diameter x 130" face.
2—Calender Dryers, bronze, 30" x 128", with frames, gears & necessary rolls to make up the unit.

EMBOSSING CALENDERS
1—3 roll 57" Embossing Calender
1—3 roll 51½" Smoothing Calender
1—2 roll 90" Smoothing Calender
1—43" 3-Roll Embossing Calender.
1—62" 2 roll Embosser.

FILTER
1—Dorr-Oliver Filter, 3 ft. dia. x 6 ft. face, stainless steel construction, with pump.

FLAT SCREENS
1—8 Plate "Packer"
1—12 Plate "Packer"

FRAMES
Beloit Heavy Duty Dryer Frames for 100 Dryers (42" Dia.) 4 Stack. Immediate Delivery.

FOR SALE

HOGS
2—Mitts Merrill Type 15 C.F.

JORDANS
1—Jones Standard, new spare tackle, with 75 h.p. motor
1—Noble & Wood Mammoth Senior, anti friction bearings

LABORATORY EQUIPMENT
1—4" face x 36" diameter Saveall
1—12" x 12" Sheet Mold
1—Washer for 5 lb. Beater
1—24" Saveall, stainless steel
1—20" Fourdrinier Wet End & Press Section
1—Bauer-McNett Fibre Classifier
2—8" x 8" Valley Sheet dryers
1—12" x 12" Valley Sheet dryer
1—Experimental Digester (High Pressure)
1—5 lb. Valley Beater.
1—15 lb. E. D. Jones Beater
1—8" x 8" Valley Hydraulic Press
1—Williams Freeness Tester, with Timer
1—Greene Freeness Tester
2—Cady Micrometers
1—High speed Jordan, anti friction bearings
1—Noble & Wood Baby Jordan, anti friction bearings, new 1957, with motor
7—Mullen Testers
1—Williams Centrifuge, motorized

LAMINATING MACHINES
1—52" face Waldron Laminating Head
2—84" Asphalt laminators.

LOG SPLITTER
1—Carthage 4-way Hydraulic Log Splitter

MISCELLANEOUS
1—#1 Miami Selectrap

MOTORS
1—60 h.p. upright induction motor.
1—30 h.p. upright induction motor
4—25 h.p. Westinghouse, totally enclosed, ball bearings, 705 r.p.m.

PRESS ROLLS
2—Chilled iron, chrome plated 9" x 72"
1—Chilled iron, chrome plated 12" x 100"
1—Chilled iron, chrome plated 10" x 74"

PUMPS
1—Economy Fan Pump, 6000 g.p.m., 20' head, 50 h.p. motor.
1—Morris-10,000 g.p.m. 25 ft. head (all bronze)

REELS
1—200" Beloit Pope Reel, 72" finished roll
1—86" 2 bowl reel.
1—84" 3 bowl revolving reel.
1—100" Rice Barton 2 bowl Reel, heavy duty.
1—123" 3 bowl Revolving Reel
1—134" 2 drum
1—72" Downingtown Reel, 2 bowl.

REFINERS
1—Sprout, Waldron Refiner, with 450 h.p. motor
1—Bills Classifiner, practically new
1—Rice Barton Dynofiner, details on request.
1—12" Wiener Refiner, with 200 h.p. motor
1—double disc Bauer Refiner, with 2-150 h.p. motors
1—double disc Bauer Refiner, with 2-50 h.p. motors.

ROLLS
Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

ROTARY SCREENS
4—#2A Bird Rotary Screen, copper vats.
7—Trimbey, Senior Knotter Screens
1—#2A-50 Bird, copper vat
2—APMEW Rotary Pulp Screens.

SAVEALLS
1—24" Continuous Saveall, stainless steel
1—LaMorte, 48" diameter x 82" face cylinder mold.
2—Savealls, cylinder molds, 42" diameter x 106" face, brand new vats.

SCREEN PLATES
Bird Rotary screen plates.

SHEETERS
1—44" Spot Sheeter Complete
1—60" Hamblet with layboy
1—132" Hamblet heavy duty duplex sheeter, anti-friction bearings throughout, including layboy and backstand.
1—84" Hamblet, duplex, back stands.

FOR SALE

SHREDDER
1—16" "Swift" Paper Shredder

SLITTERS & WINDERS
2—26" Cameron Type 9
1—32" Cameron Type 9
1—42" Cameron Type 26-3A
5—42" Cameron Type 6
1—42" Cameron Type 40-2
4—50" Cameron Type 6
3—52" Cameron Type 9.
1—86" Two Drum Moore & White 50" diameter rewind.
1—96" 4 drum Moore & White winder
1—102" Cameron Type 18, 60" diameter
1—122" Cameron Type 18, 60" diameter, anti-friction bearings
1—64" Waldron, shear cut

SLITTING DEVICE
84" Quick change slitting device shear cut, complete, practically new.

STOCK PUMP
1—10 x 20 Shartle Triplex

SUCTION COUCH SHELL
1—Downingtown suction couch shell only, 127½" face 26" diameter

SUCTION COUCH ROLL
1—Beloit, 36" diameter x 240" face, SKF bearings.

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1—Gilbert & Nash 122" face

SUCTION PRESS SHELL
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1—9 Roll 56"

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2—Iron End Vats with 36" diameter x 84" face Cylinder Molds and 40" diameter couch rolls, including spare cylinder mold and spare couch roll, all anti friction bearing equipped.

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1—36" Oswego

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3—#1 Nash Hytor vacuum pumps
1—#7 Nash Hytor vacuum pump with 75 h.p. synchronous motor.
2—Connersville, 14 x 20
2—#3 Nash Hytor
1—#4 Nash, with motor
3—L-4 Nash vacuum pumps
1—L-5 Nash Vacuum Pumps
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2—Brand new Downingtown Iron End Vats, copper lined, for 42" diameter x 112" face cylinder molds. Will cut down to your size.

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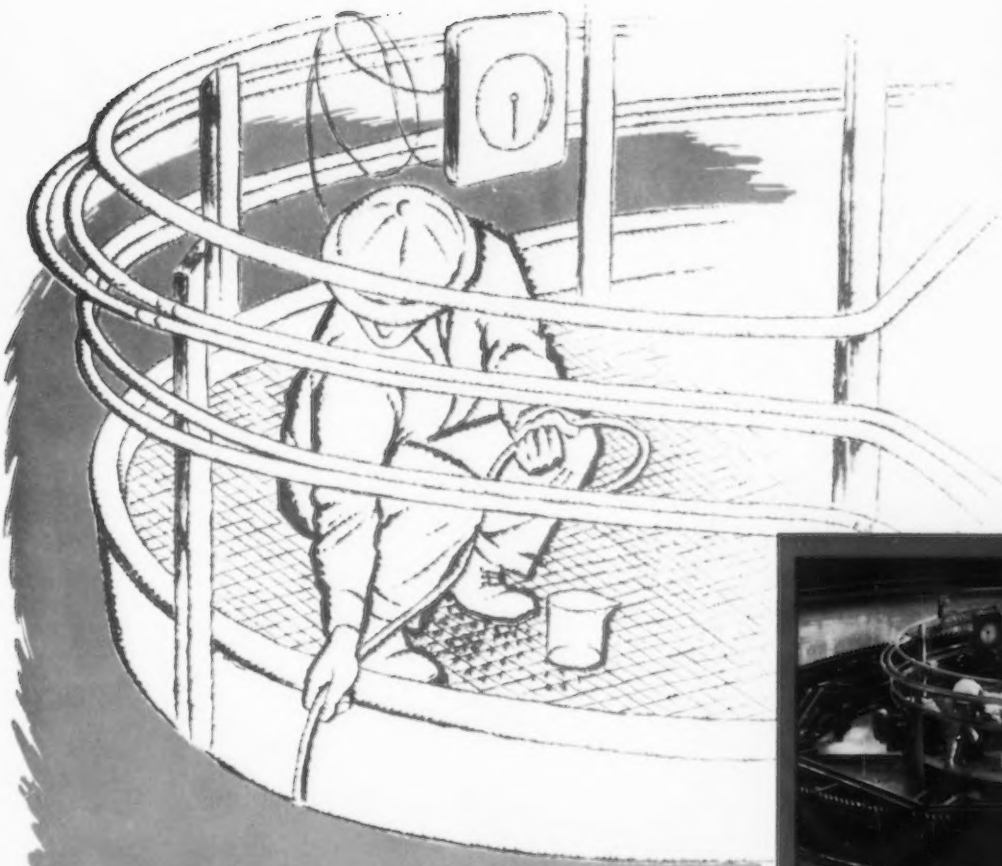

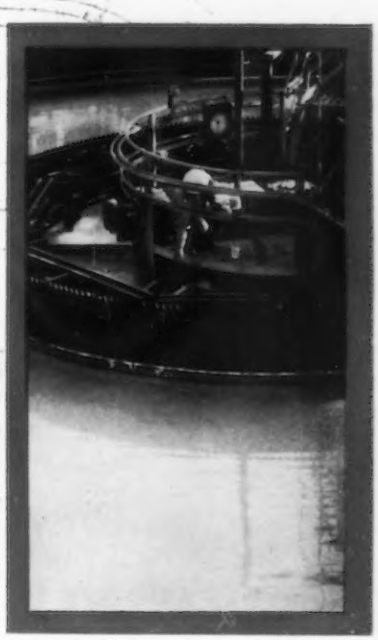

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